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December 12, 1960

RAILWAY AGE *weekly*

Welded Rail

***What using roads say about anchoring, temperature changes and upkeep...p. 18**

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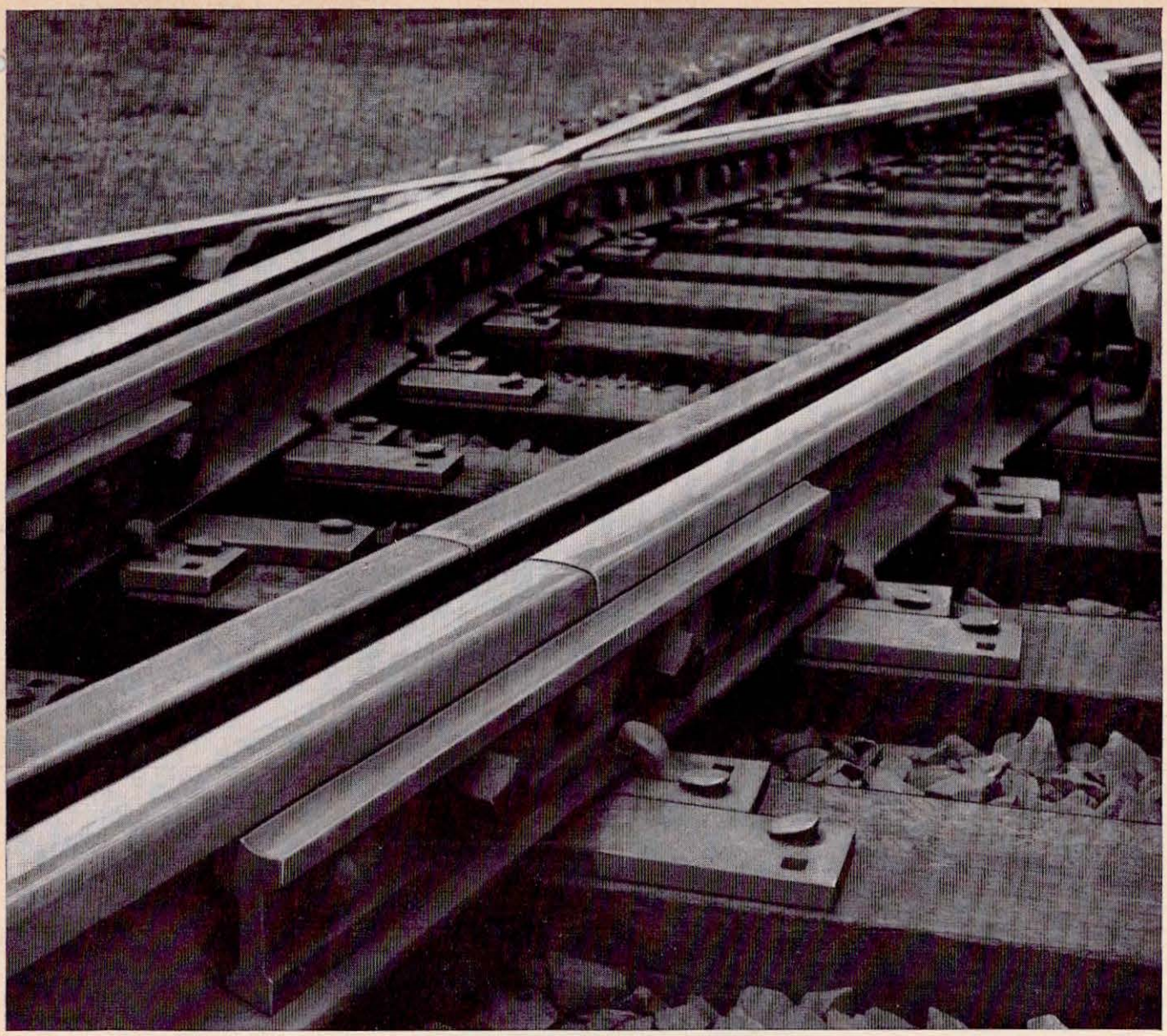

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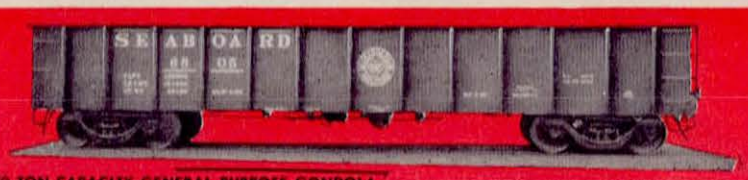

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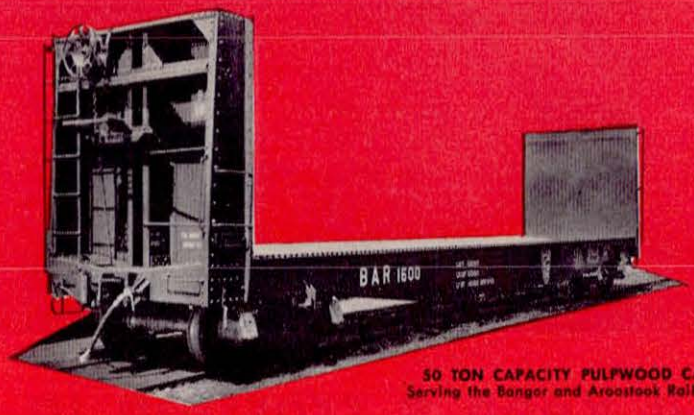

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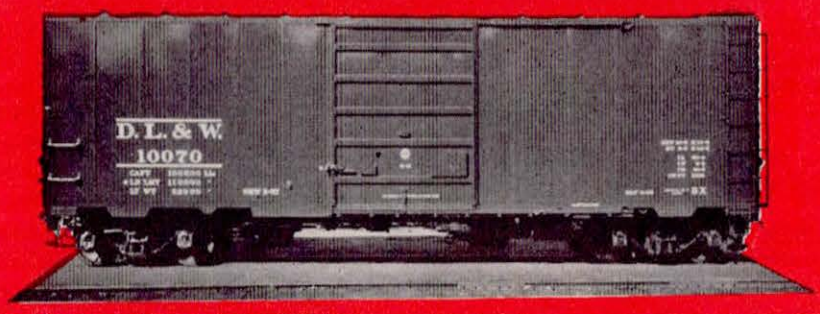

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Week at a Glance

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New revenue split proposed ..... p. 9

Eastern and midwestern railroads would get a bigger slice of a $1.5-billion revenue pie under recommendations made by ICC Examiners Hosmer and Barber. The proposed report comes out of an investigation touched off by complaints filed six years ago.

Cover Story—What's your welded rail problem? p.18

Some of the more frequent questions about continuous welded rail were discussed by a panel of experts at a recent meeting of the Maintenance of Way Club of Chicago.

Cover Story—Railroads haul houses for Alaska p.22

The prefabricated buildings move by rail from Indiana to Pacific Northwest ports for transshipment to Alaska. The houses are shipped virtually ready for occupancy.

Employees go to bat for Reading p.24

At the recent meeting of the ASME's Railroad Division, Reading President E.P. Gangewere told how the road is enlisting its employees' support through a program called "Operation Bootstrap."

Milwaukee trains its computer staff p.28

The Milwaukee is smoothing the way for a new computer system. Here's how it has been developing the staff that will design and program the new electronic data processing setup.

Research Center impresses Russians p.38

Touring USSR railroaders spent six days in Chicago. They were particularly impressed by their visit to the AAR Research Center. As one AAR technician put it: "We had to practically drag them from some of the tests to keep the tour on schedule."

Cover Story—How the PNR route was mapped p.44

The job involved extensive use of aerial reconnaissance and mapping. The railroad will run through largely uninhabited mining and timber areas of northern British Columbia. Construction, however, will not begin until various financial problems have been solved.

Teamsters ask TOFC 'royalty' p.51

The union has demanded that motor carriers using piggyback pay into the Teamsters' welfare fund an amount equivalent

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Week at a Glance CONT

Current Statistics

Operating revenues	
9 mos., 1960 ...	$7,210,476,221
9 mos., 1959 ...	7,390,378,920
Operating expenses	
9 mos., 1960 ...	5,723,495,009
9 mos., 1959 ...	5,807,048,048
Taxes	
9 mos., 1960 ...	781,301,223
9 mos., 1959 ...	792,949,896
Net railway operating income	
9 mos., 1960 ...	432,951,018
9 mos., 1959 ...	547,919,151
Net income estimated	
9 mos., 1960 ...	303,000,000
9 mos., 1959 ...	393,000,000
Carloadings, revenue freight	
47 wks., 1960 ...	28,038,637
47 wks., 1959 ...	28,154,023
Freight cars on order	
Nov. 1, 1960 ...	22,900
Nov. 1, 1959 ...	36,199
Freight cars delivered	
10 mos, 1960 ...	48,316
10 mos., 1959 ...	32,063

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to one cent a trailer mile for all trailers turned over to railroads. The demand comes at a time when the Teamsters are launching a vigorous anti-TOFC campaign.

The Action Page—What will Mr. Kennedy do? p.54

Railroad performance and future prospects would improve magically if some of their major political handicaps were removed or ameliorated. The pertinent facts must be marshalled and presented to President-elect Kennedy.

Short and Significant

Standard wrist watch . . .

for train-service personnel was approved by the New York Central System last week. The 23-jewel B. W. Raymond (Elgin) Railroad Wrist Chronometer has been approved since June for use on NYC subsidiary Pittsburgh & Lake Erie.

Subsidized helicopters between Philadelphia and New York . . .

should be approved now instead of waiting for economic prospects of helicopter lines to improve, according to Philadelphia Aviation Director D. G. Davis. New York Airways has filed for such a route with CAB.

Repeal of New York's 'full-crew' laws . . .

will be sought again in 1961 by the State Association of Railroads. New York's legislature adjourned this year without considering a Public Service Commission recommendation calling for repeal of the laws.

A three-judge federal court has rejected . . .

a union request that the ICC order approving the Erie-Lackawanna merger be set aside. The Brotherhood of Maintenance of Way Employees contended that the ICC order failed to provide job protection as required by the Interstate Commerce Act (RA, Oct. 17, p. 36).

ACL-SAL merger hearings . . . .

will be resumed in Richmond, Va., Jan. 23. The Richmond hearings began Nov. 28 and were recessed Dec. 2 to give interveners time to prepare for cross-examination.

Western Pacific has petitioned the ICC . . .

for permission to intervene in opposition to Southern Pacific's bid to acquire control of WP and to support Santa Fe's opposing offer. WP also asked for relief from "illegal and harmful actions" of SP and asked the ICC to subpoena SP President D.J. Russell Dec. 14 and take depositions concerning SP's "exact plans."

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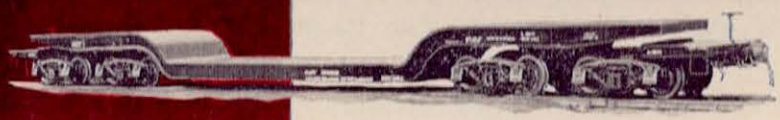

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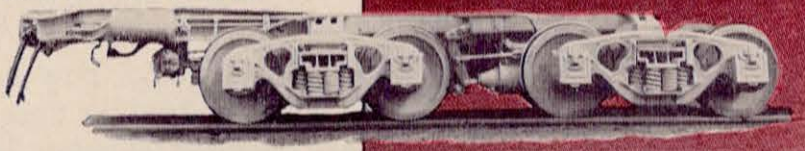
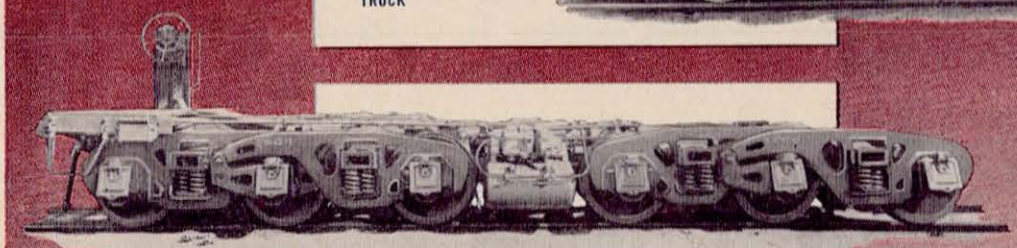
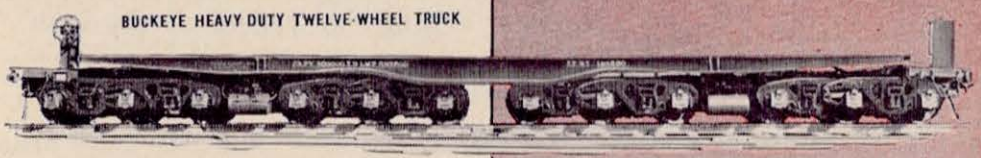




BUCKEYE HEAVY DUTY TWELVE-WHEEL TRUCK



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New Revenue Split Proposed

► **The Story at a Glance: Bigger shares of revenues from joint rates on traffic to and from Mountain-Pacific territory and to and from its Transcontinental-territory segment will come to eastern and midwestern railroads, respectively, if the ICC adopts recommendations of a proposed report by Examiners Howard Hosmer and Oren G. Barber.**

The examiners have no estimate of how much revenue would shift, but the annual-revenue pie which would be recut is a $1.5-billion dish. The new divisions pattern recommended seems to be a set-up under which midwestern railroads would get quite a bit more revenue while the additional take of the eastern lines would be substantial. Losers, of course, would be the western roads.

Complaints filed more than six years ago by eastern and midwestern roads brought on the Commission's investigation (No. 31503), which also embraces cross-complaints filed by western roads. All the complaints assailed present divisions as unlawful and sought larger shares of the joint revenues for the respective complainants, thus reflecting their "mutually adverse interests," as the examiners put it.

Eastern railroads would get much of what they seek in the way of more favorable divisions of East-West revenues while midwestern lines would also win an important, but relatively smaller, victory under the new revenue-splitting plan proposed to the ICC by Examiners Hosmer and Barber.

The proposed plan calls for point-to-point divisions, the key points being based generally on present class-rate and divisional groupings. This is an approach quite different from divisional scales, popularly known as integer scales, which provide formulas for determining divisions and which have been prescribed in other interterritorial divisions cases of recent years.

Although the divisions involved are now on the point-to-point basis, the examiners' failure to propose an integer-scale plan undoubtedly surprised the railroads. Examiner Hosmer has been regarded as an exponent of that approach, having had much to do with its development in collaboration with the late Commissioner Joseph B. Eastman.

The midwestern roads proposed an integer-scale plan but the western lines opposed it, arguing that the point-to-point or group basis is "highly desirable" in the light of competitive conditions affecting the routing of transcontinental traffic. The examiners' recommendation reflects their general agreement with this. The recommended plan is set out in a 27-page appendix to the proposed report.

On traffic moving between New York and San Francisco, for example, the proposed plan would give the eastern roads 32% of the revenue for the haul east of Chicago. Their present division is 27½%. The midwestern roads' share for hauling the traffic between Chicago and Missouri River crossings would increase from 12% to 13%. Thus the western lines' share for the haul would drop from 60½% to 55%.

On traffic moving between Chicago and the Pacific coast, the midwestern lines would get a 22% division as compared with their present 16½% share. The western roads' share would thus drop from 83½% to 78%.

It will take statistical studies of movements between the recommended divisional groupings to provide estimates of how the complainants would fare if the Commission takes the examiners' advice. Generally, the eastern roads seek division bases designed to raise their share of the East-West revenues from something like 23% to about 33-1/3%. In their less-comprehensive complaint, the midwestern lines seek to raise their divisions of interline revenues to and from the so-called Transcontinental area of Mountain Pacific territory. In their cross-complaint, the western lines seek to increase their take by about 10%.

Hearings in the case were held intermittently over a period of more than 4½ years—from April 1955 to December 1959. The transcript of oral testimony runs to 11,242 pages. The record also contains 834 exhibits, and briefs occupy another 1,145 pages, plus voluminous appendices.

The examiners' 38-page report does not undertake to review this evidence in detail. It does appraise it, however, as a showing of how such conditions as the economy of territories served and situations of the contending railroad groups have changed "from those which prevailed in the half century from about 1880 to 1930" when the assailed divisions "were crystalized in their present form."

Three tables are reproduced in the proposed report to compare on regional bases, the revenue ton-miles, freight revenues and net railway operating incomes of the 1923-1930 period with those of the 1946-1958 period. "The most significant feature" of the showing as to net railway operating incomes "is the reduction of 31% for the carriers in Official territory contrasted with the overall reduction of 14%," the report said.

"The three comparative statements," the examiners continued, "indicate clearly the inferior position of the railroads in Official territory as freight carriers, compared with the Western district since World War II. In 1923-1930, the annual revenue ton-miles of the Official territory lines exceeded those of the Western district by 51%; in 1946-1958, the Official average was 4% lower than the Western. The Official lines in 1923-1930

Soo Merger Okayed

The Soo merger plan has been approved by the ICC.

The plan contemplates consolidation of three Canadian Pacific affiliates—Minneapolis, St. Paul & Sault Ste. Marie, Wisconsin Central and Duluth, South Shore & Atlantic. To effect the consolidation, Soo and WC properties will be merged into DSS&A; and the latter's name will be changed to Soo Line Railroad Co., the name under which the unified system will operate.

Under the Commission's order, the merger can be made effective Dec. 13. The railroads had asked for approval in time to permit consummation no later than Jan. 1, 1961.

The unification will create a 4,800-mile system, and it is expected to result in annual savings of about $1,200,000.

had 30% more freight revenue than the Western district; they had three tenths of one per cent less in 1946-1958. The net railway operating income of the Official lines in 1923-1930 was 31% greater than that of the Western district; in 1946-1958 it was 9% less."

The examiners don't seem to have been helped much by cost evidence which the carriers offered. They refer to the cost studies as being surrounded by a "tangled skein of controversy," and they call the cost evidence "the principal cause of the excessive size of the record." This, they add, "unfortunately gives some support to the current criticism that administrative proceedings are becoming unwieldy, time-consuming, and expensive for all concerned."

Much of the testimony on this phase of the case "was essentially argument of cost analysts, including offsetting charges and countercharges of inconsistency on the part of these witnesses with positions taken in other proceedings," the proposed report continued. It added that much of the cost evidence "also had to do with corrections of clerical and other errors."

Without attempting to unravel the "tangled skein," the examiners say the "essential question" is whether there are territorial differences in cost which affect the expense of moving the interterritorial freight involved. For an answer, they turn to one of the Commission's findings in class rates, Mountain Pacific territory, 296 ICC 555. The finding is to the effect that costs in Mountain Pacific territory remained higher than in other territories, but the spread had narrowed in the past 20 years.

While the Commission there made no definite finding as to what the approximate difference now is, it did approve for the Transcontinental lines a scale of interterritorial class rates which were about 9.5% higher on the average than those which would have been produced by the general 28300 scale to and from Eastern territory and about 12.5% higher than those to and from other sections of Western Territory. The proposed report said:

"That action tends to support the view that the higher basis of class rates prescribed was at least partly in recognition of differences in costs and other conditions affecting the Transcontinental lines, and we have taken that action into account among other considerations in our recommendations."

As to the "other considerations," the examiners had previously expressed their agreement with one of the carrier cost witnesses who said "there is necessarily more to a divisions case than a showing of comparative costs."

The witness' further comment, which the examiners also quoted with approval was:

"Section 15 (6) of the Interstate Commerce Act which gives the Commission power to prescribe divisions refers to the amount of revenues required to pay respective operating expenses, taxes, and fair return, including total carrier financial needs, carrier credit and the burden of meeting the necessary constant costs, the passenger deficits and return on investment. The composition of each carrier's traffic, the distribution of the burden among all traffic carried, and the financial dependence of the respective carrier upon the traffic in question are vital factors here to be weighed. It is plain that no single formula can be used to fix fair divisions under all circumstances."

The proposed report was served Dec. 6, and exceptions may be filed within 90 days from that date. Another 45 days will then be allowed for filing replies to the exceptions.

Watching Washington *with Walter Taft*

• **ANTI-TRUST CASE** against eastern railroads, the Eastern Railroad Presidents' Conference and their public-relations counsel, Carl Byoir & Associates, will be argued this week in the U.S. Supreme Court. The case is in the high court on the railroads' appeal from an adverse decision of the federal district court for the Eastern District of Pennsylvania.

INVOLVED is the complaint of the Pennsylvania Motor Truck Association and a group of long-distance truckers against public relations practices and legislative activities of the eastern roads. The lower-court decision awarded damages of $652,000 to the truckers and enjoined the railroads from advocating legislation to increase taxes on long-distance trucks and from any other activities "derogatory" of such truckers.

THE RAILROAD ARGUMENT before the Supreme Court will contend that the lower court incorrectly interpreted the Sherman Act when it determined that it could employ that anti-trust law to "punish and restrain political and public relations activity." The "sweeping injunction" will be assailed as a ban which would silence the railroads while unfairly leaving truckers free to present only "one side of the story" to the public and legislators.

WARNINGS of the implications if the high court should uphold the injunction will also be sounded by railroad counsel. As their appeal petition pointed out, such a ruling could proscribe "familiar public and legislative battles" like those between the dairy and oleomargarine interests and between domestic manufacturers and importers.

• **WATER TRANSPORT** of sugar in bulk will remain regulated. The ICC has denied petitions seeking a declaratory order which would determine whether or not such transportation is free of regulation under bulk-commodity exemptions of the Interstate Commerce Act's Part III.

THE EXEMPTION PROVISIONS apply specifically to water transportation in bulk of commodities which were usually carried that way prior to June 1, 1939. Bulk transportation of sugar had not then developed.

THE QUESTION posed by the petitioners is "too broad and abstract for determination by declaratory order," the Commission said. It added that the determination sought "appears to be one which is properly the subject matter of a complaint proceeding against specific carriers."

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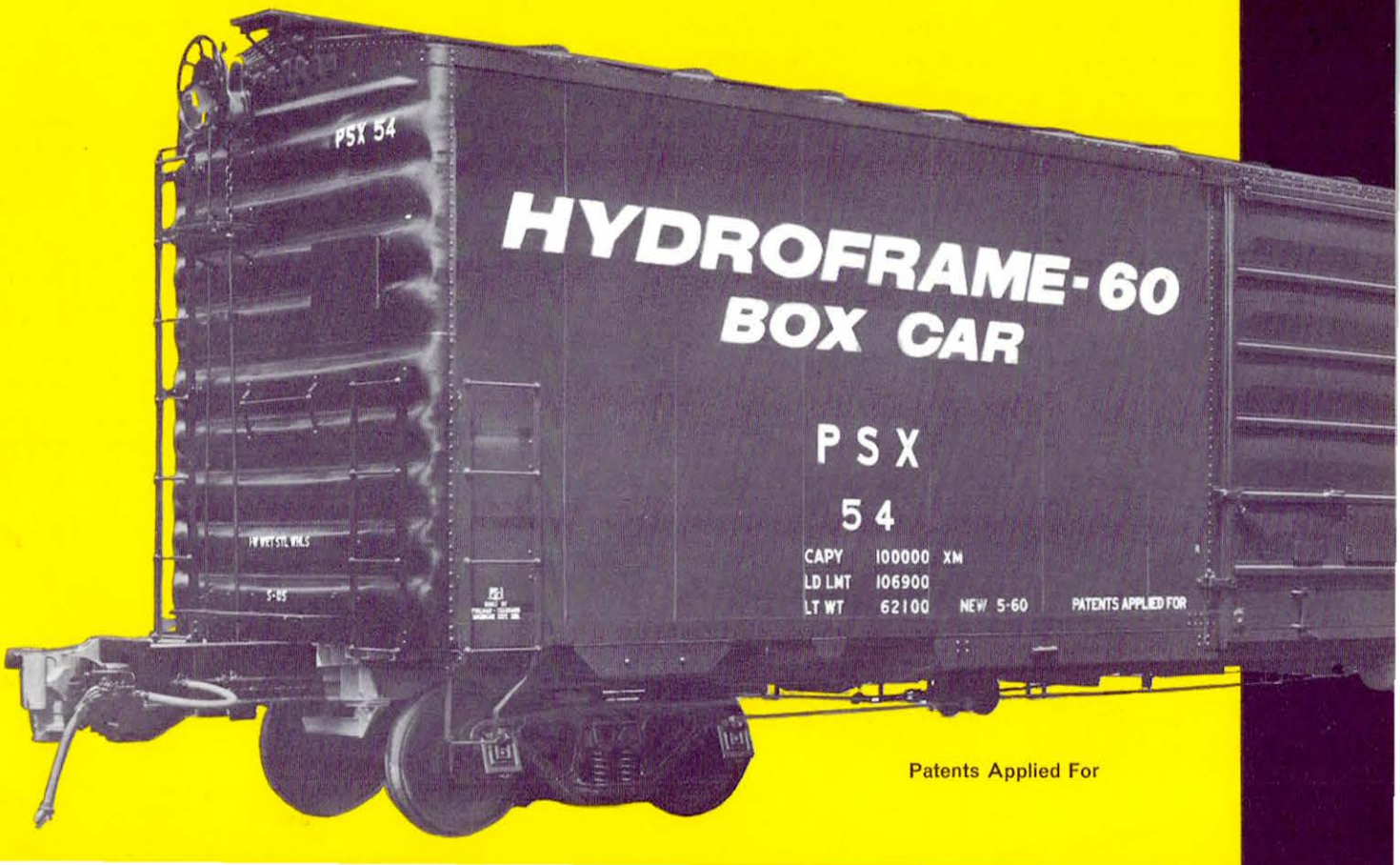
Pullman-Standard, the innovator of a multitude of new developments in railroad rolling stock, has provided the answer to the lading damage problem in the P-S Hydroframe-60; a hydraulic cushioning device, employing thirty inches of cushioned travel in either direction. Yes, *thirty inches* of cushioned travel . . . enough to eliminate damage to fragile lading from coupler impacts, even at collision level speeds up through 12 mph.



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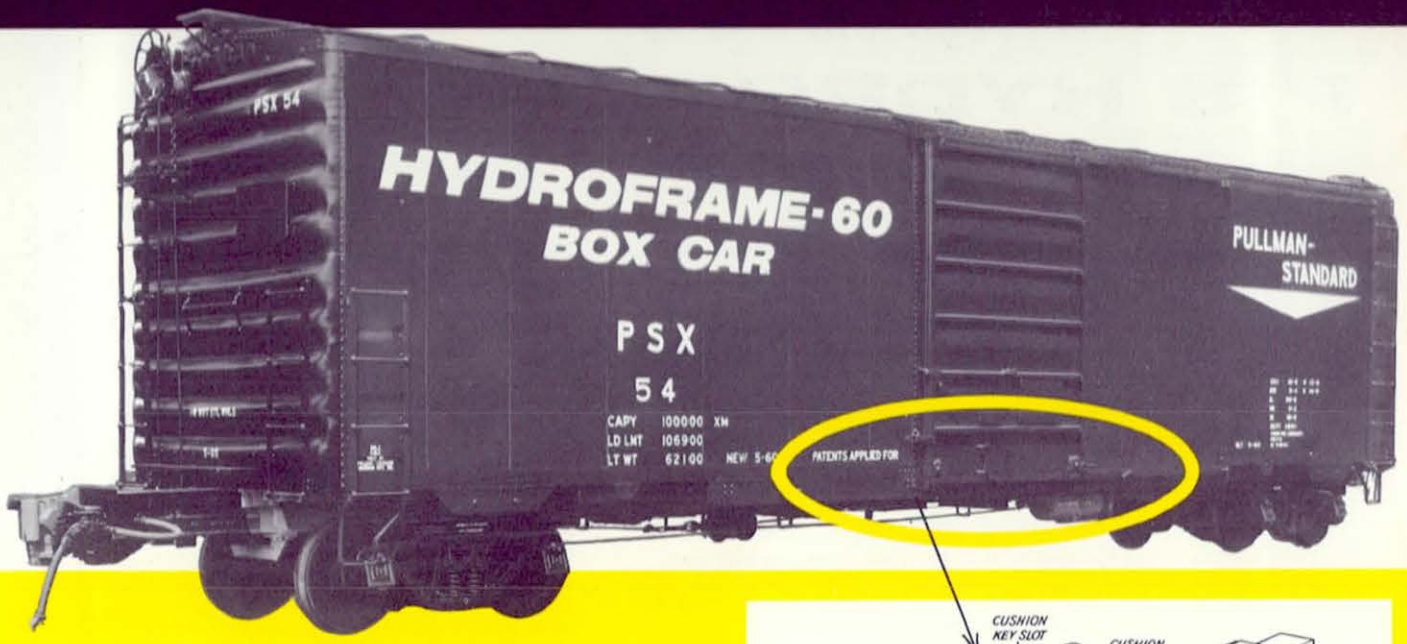
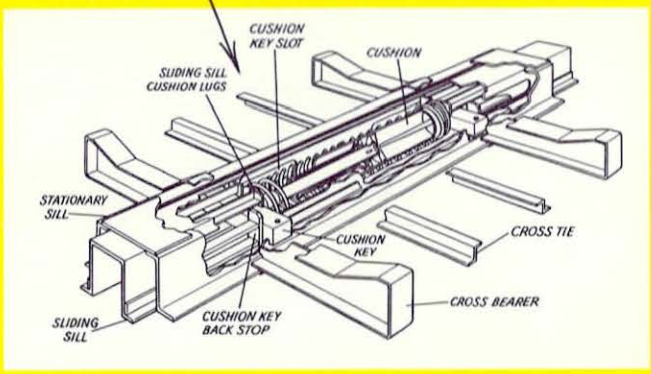
what it is...





The new Pullman-Standard Hydroframe-60 is a hydraulic cushion device which provides 30 inches of cushioning travel in each direction, for a total of 60 inches. This new type, leak-proof, maintenance free and specially designed hydraulic cushion that uses no packing seals, and has no exposed finely machined or chromed piston rods, is located in the freight car underframe between the sliding center sill and the car body. It can be used in PS-1 or other box cars or any car where elimination of lading damage is important.

Long travel cushioning is the principle upon which the P-S Hydroframe-60 is designed. Exhaustive Pullman-Standard Research and Development engineering and testing proved conclusively that damage-causing impact forces on the lading are surprisingly reduced when cushioning length approaches 30 inches. It was found that 30 inches of cushioning is optimal . . . at this length impact forces on the lading are reduced below the levels at which damage occurs, and any extra force reduction attained through added cushioning length becomes increasingly negligible.

This dramatic breakthrough to the problem of lading protection is not just drafting board theory. Hydroframe-60 protection has been proved, in the laboratory, in field tests, and in actual service. And, it is available now. More than 200 P-S Hydroframe-60 equipped box cars are in service and more are on order.

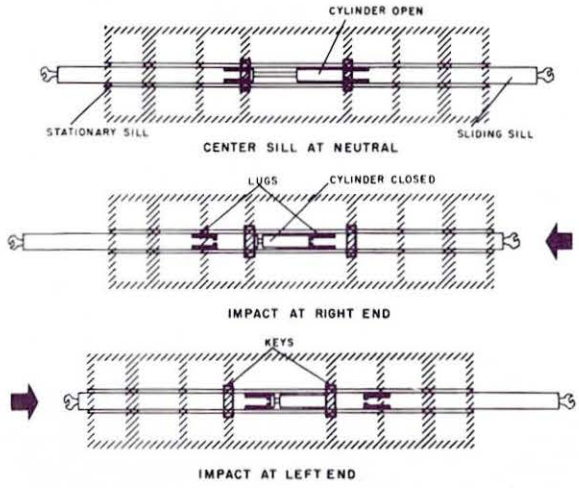
Standard, piggyback or container-carrying flat cars can also receive the benefits of P-S Hydroframe-60 protection. In fact, the Hydroframe-60 principle can be built into most any conventional style freight car or even new type equipment such as the P-S Hydroframe-60 Container Car shown here.

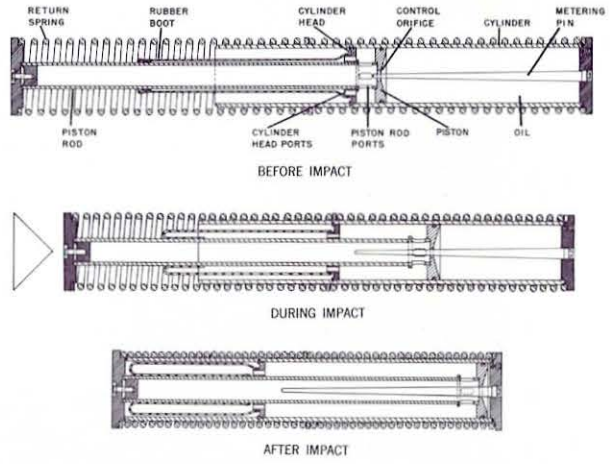
PATENTS APPLIED FOR

P-S HYDROFRAME-60 CONTAINER CAR

P-S HYDROFRAME-60

how it works...





PATENTS APPLIED FOR CROSS SECTION OF LONG TRAVEL CUSHION

Pullman-Standard engineers, scientifically evaluating the dynamics of impact, correctly concluded that there are two separate and distinct impacts to be considered. The first is the shock of the force against the coupler, and the second is the shock of the lading against the interior of the car. They also concluded that traditional approaches to this problem, although sharply reducing the first impact shock at the coupler, did not result in the same sharp reductions in the second shock of lading impact against the inside of the car. With this concept isolated and proved, Pullman-Standard engineers determined that the answer to elimination of lading damage would be found in a cushioning device that would reduce the force of both these *two impacts* below the danger point. Their problem was to develop a device that would lengthen cushioning time to such a degree that lading acceleration within the car body could be maintained at a low safe level, eliminating the second impact between the lading and car interior.

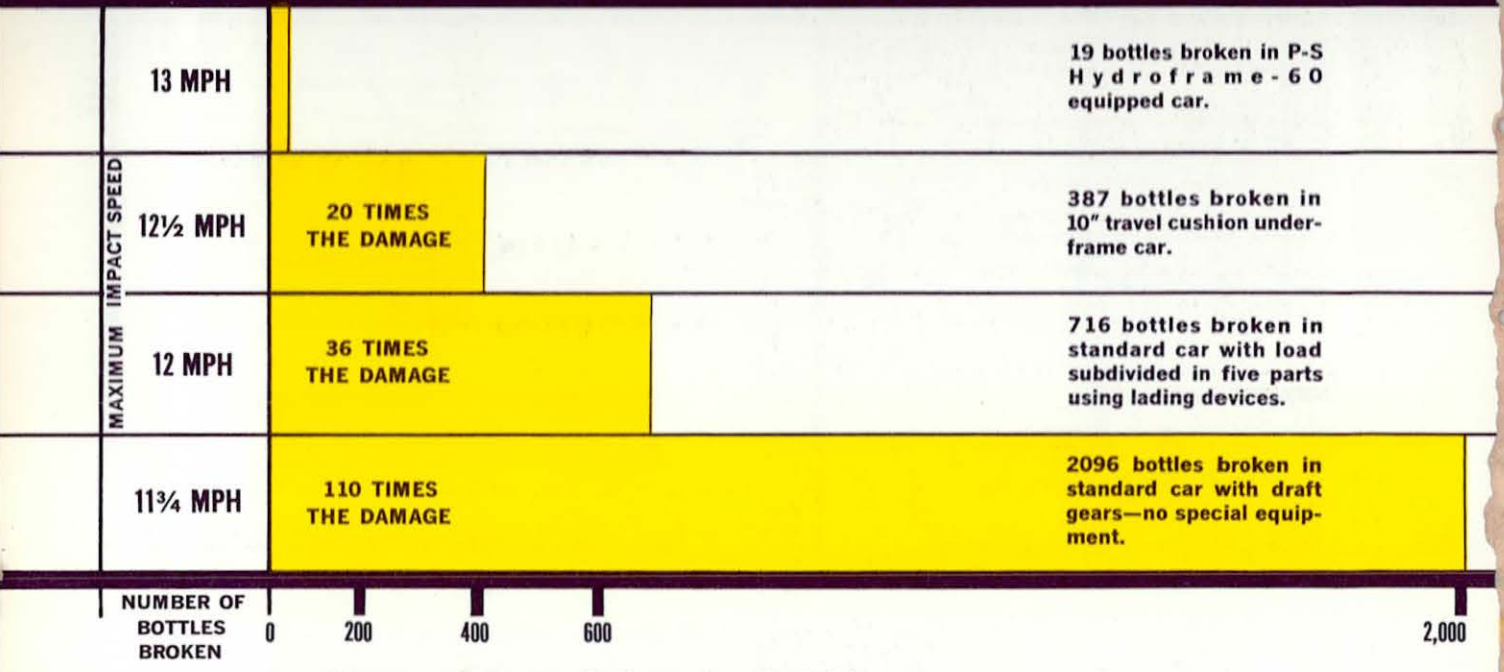
Pullman-Standard Research Engineers designed a hydraulic cushioning device that lengthens cushioning time sufficiently to control both impacts while being physically able to withstand the severe operating conditions and punishment it experiences in a freight car underframe. Consisting of a hydraulic cylinder and piston, the device transfers fluid from one chamber to another in an even flow controlled by a metering pin. A unique rubber boot forms the second chamber which holds the fluid when the cylinder is compressed, and returns the fluid when the cylinder opens to a neutral position. This arrangement of a rubber boot, sealed and fastened to the moving piston rod and the cylinder head, precludes the possibility of leakage, inherent with conventional hydraulic cylinders using close fitting sliding seals. A heavy duty coil spring assures recentering of the sliding center sill to a neutral position after impact.

In train operation slack-action with Hydroframe-60 cars is identical with that of standard cars, as, in effect, the connections and center sill movement are no different than in standard cars. However, the Hydroframe-60 protects lading against sudden train accelerations or decelerations. Hydroframe-60 cars are equipped with standard draft gears, and the car body moves on the sliding center sill. Except for the normal draft gear movement, the car center sill length remains constant.

For shipper and car owner alike, the Hydroframe-60 is the only complete-protection device that promises to protect equipment and eliminate damage to lading from in-service and train make-up impacts and shocks when normal good loading practices are observed.

P-S HYDROFRAME-60

what are the results...


MAXIMUM IMPACT SPEED
13 MPH
19 bottles broken in P-S Hydroframe-60 equipped car.
12½ MPH
20 TIMES THE DAMAGE
387 bottles broken in 10" travel cushion underframe car.
12 MPH
36 TIMES THE DAMAGE
716 bottles broken in standard car with load subdivided in five parts using lading devices.
11¾ MPH
110 TIMES THE DAMAGE
2096 bottles broken in standard car with draft gears—no special equipment.
NUMBER OF BOTTLES BROKEN
0
200
400
600
2,000

In addition to extensive Pullman-Standard laboratory tests, a major U. S. railroad made damage comparison tests with standard cars, short travel cushion cars and Hydroframe-60 equipped cars all loaded with throw-away soft drink bottles packed in open fibreboard boxes. This factual graph records the results and illustrates the vast reduction in damage to lading experienced through the use of a P-S Hydroframe-60 equipped car.

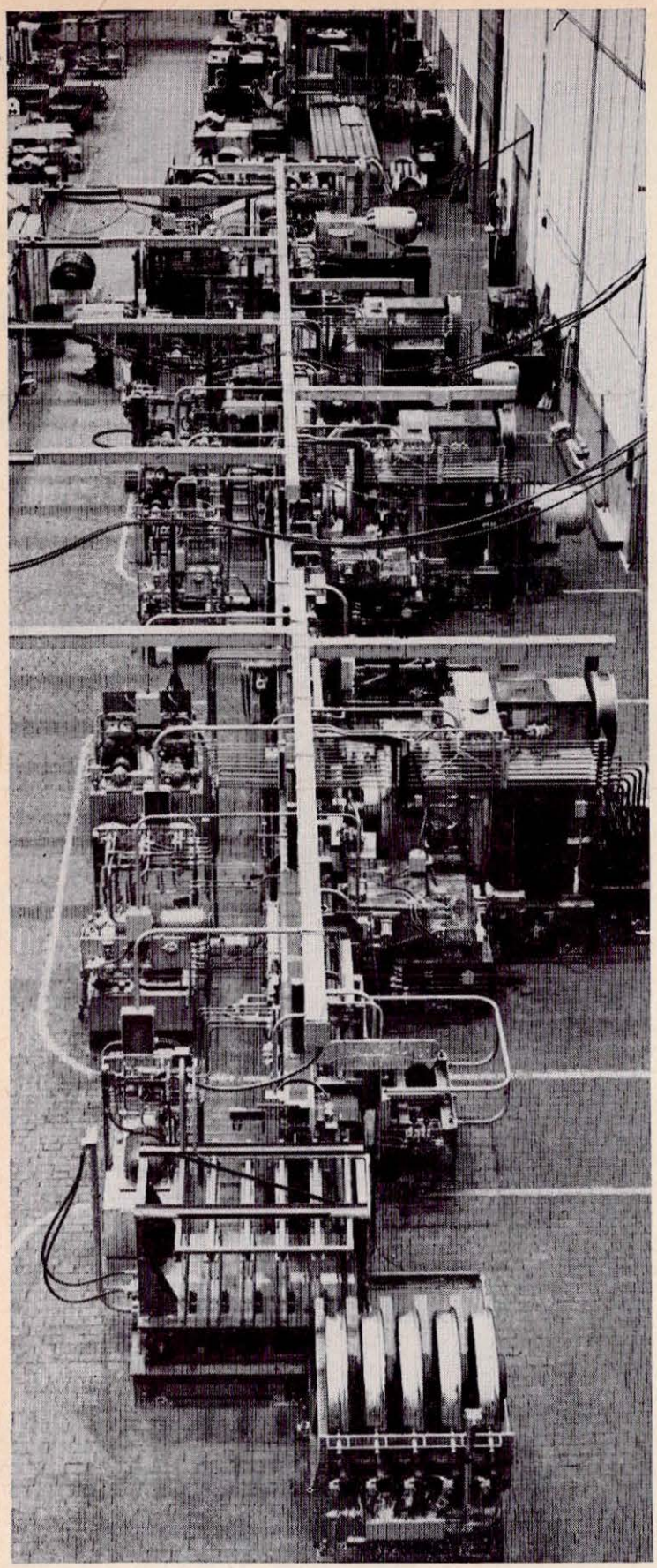
P-S Hydroframe-60 equipped cars are now in service. The Hydroframe-60 developments represented herein are protected by application for patents pending in the United States Patent Office.

PULLMAN-STANDARD

A DIVISION OF PULLMAN INCORPORATED
200 S. MICHIGAN AVENUE, CHICAGO 4, ILLINOIS
BIRMINGHAM • PITTSBURGH • NEW YORK
J. C. FENNELLY CO., WEST COAST REPRESENTATIVE

PRINTED IN U. S. A.

FORM 15-121



CAR-WHEEL MACHINING REVOLUTIONIZED... AT STANDARD

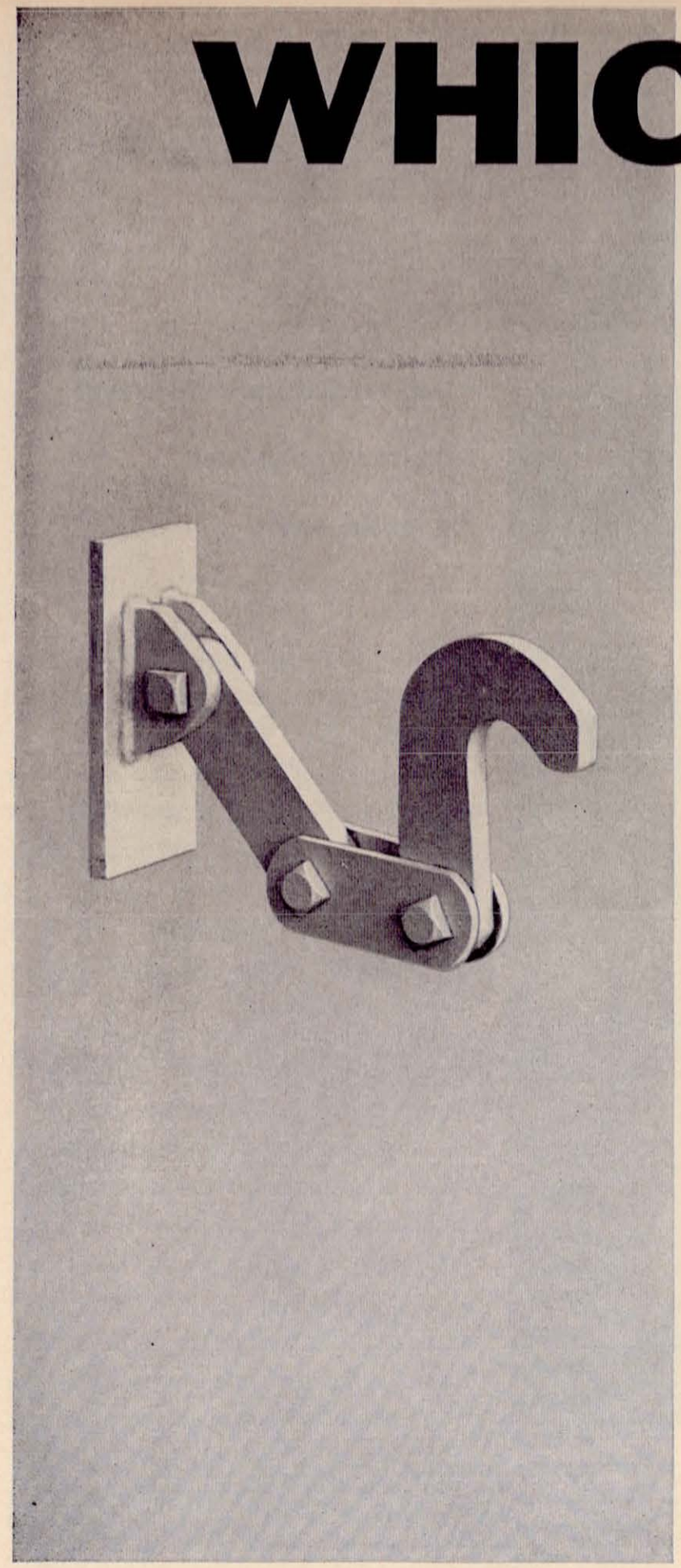
Railroad car wheels are now being completely machined in 75 seconds per wheel at Standard Steel Works—one of the leading producers of wrought steel wheels for every type of rail rolling stock. The new automatic wheel-line equipment recently installed at Standard is not only setting a world's record for machining speed—it is also producing finished wheels of extreme dimensional accuracy.

Designed and installed by Kearney & Trecker Corp., of Milwaukee, Standard's new wheel-machining line is unique in that wheels are handled vertically throughout the operation, rolling from station to station. Consequently, each wheel helps itself move from the loading station through all of the processing stations of the 118-ft. wheel-line. Contact Standard today for the most dependable wheel quality and delivery.

Standard Steel Works Division
BALDWIN · LIMA · HAMILTON
BURNHAM, PENNSYLVANIA
Rings • Shafts • Car wheels • Gear blanks • Flanges • Special shapes

WHICH IS

EVERY PIGGYBAC
A TOOL. LET'



TOOL FOR G-85 HITCH

Type:
Simple hook attached to yard tractor

Cost:
$135—*nothing else needed*

Tie-down-time:
30 seconds per trailer

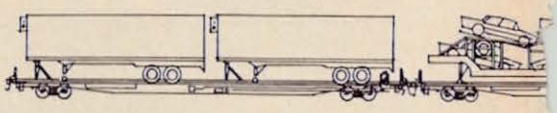
Unloading time:
20 seconds

Operator:
One man (from inside the tractor cab)

Tie-down principle:
Driver backs trailer into position and releases hook. Hook engages hitch and pulls it into positi automatically. Tractor nudges trailer into loc position. *Nothing else needed.*

Unloading principle:
Driver backs tractor into position; couples air lines, backs tractor to trailer—this automatical disengages and lowers hitch and engages traile He then drives off. *Nothing else needed.*

Manual operation:
If hook is not available, tie-down can be accomplished manually in less than 9 minutes . *unloading still only 20 seconds.*



Piggy-Back GENERAL AMERICAN TRADE MARK

PIGGY-BACK DIVISION
GENERAL AMERIC
135 South LaSalle Street
Chicago 3, Illinois
Offices in principal cities

BETTER?

HITCH REQUIRES COMPARE . . .

TOOL FOR OTHER HITCHES

Type:

Pneumatic or electric wrench plus hose or cable and power supply

Cost:

$375—$600 each plus air lines or cable and power supply attachments

Tie-down time:

2½ minutes per trailer is minimum claimed

Unloading time:

2½ minutes per trailer is minimum claimed

Operators:

Minimum of two (man in tractor cab plus wrench operator)

Tie-down principle:

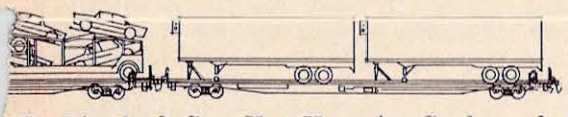
Driver backs trailer into position. Man climbs on car, adjusts trailer landing gear and bleeds brakes in rear of trailer. Then he returns to front of trailer, engages wrench and elevates hitch into position. Man must then disengage wrench, reposition it and re-engage it to operate kingpin lock.

Unloading principle:

Yard man brings over wrench and cable and operates unlocking mechanism. He repositions wrench to lower hitch and then closes air valve on trailer brakes and climbs off car with wrench. Driver backs tractor into position, couples airlines, builds up brake pressure on trailer and drives off.

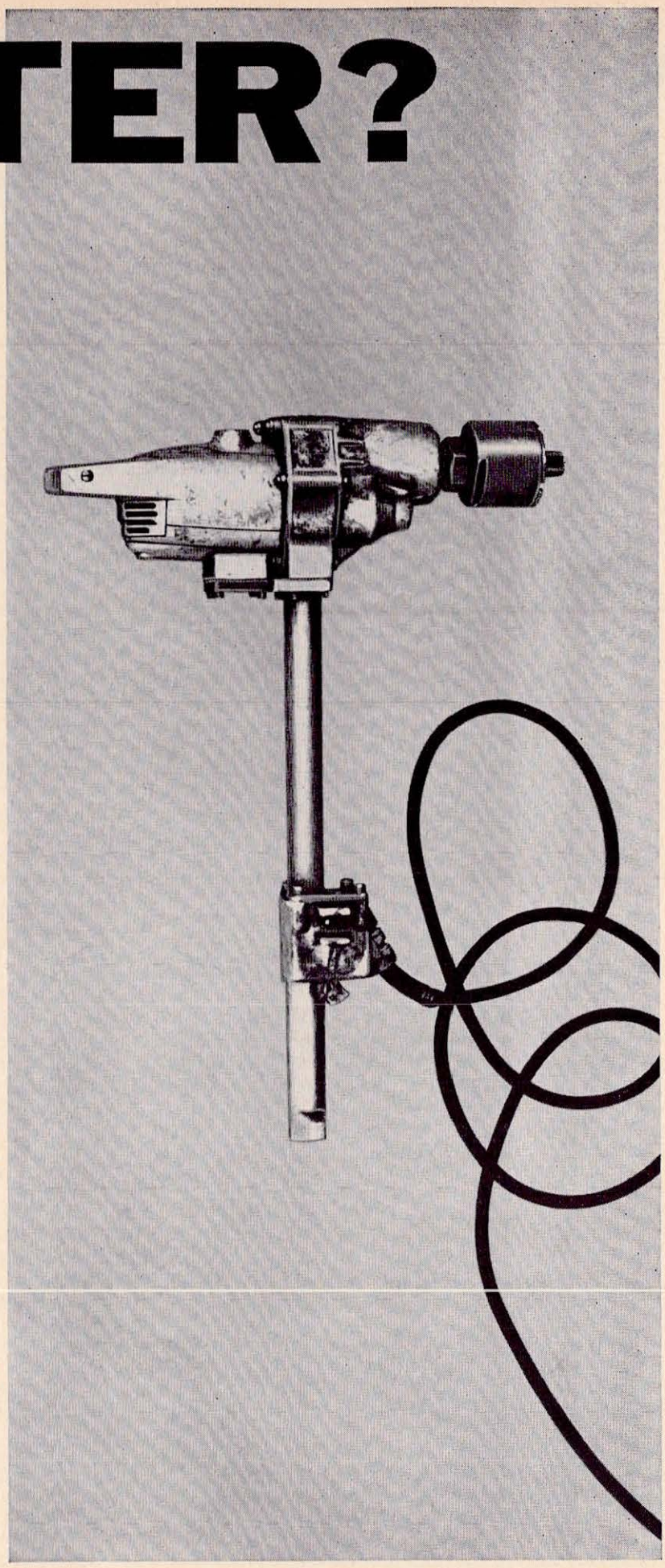
Manual operation:

If wrench motors burn out, pneumatic lines freeze or power fails tie-down takes about 30 minutes manually . . . manual unloading takes 30 minutes as well.



The Piggyback Cars You Have Are Good . . . but for the standout, look to the G-85.

TRANSPORTATION CORPORATION



What's Your Welded Rail Problem?

What has been the experience with continuous welded rail on railroads that have had it in service for a number of years? How do they anchor it? Are temperature fluctuations a problem? What is done when a defect is found?

These were among the questions considered by a panel of experts at a meeting of the Maintenance of Way Club of Chicago. The moderator was C. E. Weller, assistant engineer maintenance of way, Illinois Central. Panelists were: R. H. Beeder, chief engineer system, Santa Fe; W. J. Cruse, engineer maintenance of way, Great Northern; L. Allen, general roadmaster, Monon; and G. M. Magee, director engineering research, AAR.

• How is continuous welded rail being anchored?

The panelists were not far apart in their answers to this question. The Santa Fe, said Mr. Beeder, box-anchors alternate ties throughout its 1,440-ft rail strings, then puts on additional anchors for five rail lengths in each direction from the joints. These are placed on the other alternate ties in the direction to resist any tendency for the joint to pull apart.

Anchorage practice on the Monon, Mr. Allen said, is the same as that used on the Santa Fe. He believes "we should stay with this method until we find one better." On the other hand, practice on the Great Northern, described by Mr. Cruse, is to box-anchor every third tie in the intermediate portions of its ¼-mile strings, but to box-anchor every tie for six rail lengths from the closure rails at the ends.

• Are pull-aparts a problem?

Fear of pull-aparts at joints between welded strings is a source of concern to track men, the panel discussion indicated. "On the Monon," said Mr. Allen, "the temperature is such that we feel pull-aparts are the greatest hazard we face with welded rail." However, this road, which has 30 miles of welded rail, has had only one pull-apart. This occurred last winter in zero weather.

The Great Northern experienced a number of pull-aparts during the first few years of its experience with welded rail. That, explained Mr. Cruse, is one reason the road is using closure rails between its welded strings. A single closure rail 37 ft long plus or minus is used, except at insulated points, where two are used. The practice of box-anchoring every tie for six rail lengths in each direction from the closures was adopted to "give a little more holding power" against pull-aparts and has "cleared the matter up," he said.

Mr. Magee said he "would be inclined to box-anchor every other tie throughout, use a short rail in connecting the continuous welded rail sections and box-anchor that the same way on every other tie." Explaining his preference for a short or "buffer" rail between welded strings Mr. Magee said it provides a "place where you can make your adjustments" in case of a broken rail. Also, he added, "if you have to lay the rail when the temperature is too high or too low you have a short rail you can work with to make adjustments."

• What is the effect of temperature changes?

The problems that come with welded rail because of fluctuations in temperature were discussed at length by the panel. Mr. Magee pointed out that for each degree change in temperature there is "a stress change in rail of 200 lb per sq. in. If you lay rail at 130-deg. temperature—and rail can get to that temperature in the hottest summer weather—and if you are in a location where it will drop down to 40 deg below in the winter as it does on the Great Northern, you have a tempera-

AAR Welded Rail Studies

The trend towards increasing use of continuous welded rail has created some problems which have been studied at the [AAR] Research Center. Metallurgical examinations were made of failures that have occurred in welds at the request of Member Roads. Although the failures have been relatively few in number they are nevertheless of concern. Failures in electric-flash-welded rail have been found which were due to electrode burns, excessive heat from grinding, segregation and pipe of the rail and lack of sufficient upset pressure or slippage of the clamps during the upsetting process. With acetylene pressure welds, failures have been found that were due to the rail ends not being sufficiently cleaned, popouts during the welding process, segregation and pipe of the rails and excessive heat generated during the grinding process. In both processes grinding of the welds after they have cooled is to be avoided. Successful results have been indicated from flash welds of fully heat treated rail, silicon-vanadium rail and high-silicon rail. Welds in these steels were investigated at the Research Center by means of rolling-load tests, slow-bend tests and drop tests. Extensive tests were also made of oxyacetylene pressure butt welds, with and without normalizing. The results of the physical tests and the metallurgical examinations did not indicate any benefit from the normalizing process, and several roads have now eliminated this from the acetylene welding procedure, thus affecting savings by eliminating the cost of the normalizing.

In June a member of the Research Center staff observed the laying of approximately five track miles of 115 RE continuous welded rail on the Illinois Central northward passenger main in Chicago, where an epoxy resin glue was used in the rail joints connecting the 1440-ft welded lengths. Instead of sand blasting to clean the surfaces to be glued, an air-operated cleaning gun was used. As this is a new cleaning method, a test joint was assembled for testing in the Engineering Laboratory for comparison with results previously obtained with joints cleaned by sand blasting. Although the slippage resistance of the joints cleaned with the air-operated cleaning gun was somewhat lower than for joints previously tested cleaned by sand blasting, nevertheless the slippage resistance was quite high and appears to be adequate for resisting any rail slippage during cold weather. The glued joints were installed with the rail ends tight and will be examined periodically this winter to determine whether there is any joint gap opening due to the effects of traffic and temperature change.

—1960 Annual Report, AAR Research Center

THE PANEL: Left to right—W. J. Cruse, R. H. Beeder, C. E. Weller, J. L. Perrier (club president), G. M. Magee and L. Allen. Mr. Perrier is a division engineer on the Chicago & North Western.

ture change of 170 deg. When you multiply 170 by 200 you get a stress of 34,000 psi." Noting that this "is a lot of tension to put in rail," Mr. Magee believes "it would be very desirable to try and lay rail at somewhere near a mean temperature."

The stresses introduced in welded rails by changes in temperature emphasize one of the advantages of using buffer rails, according to Mr. Magee. "You can't lay rail at a mean temperature generally; you have got your rail gang out there and you have to go ahead and lay rail at whatever the temperature is. But if you use buffer rails and if it's too hot, it is not much of a job to come in and remove the buffer rail, loosen your anchors, and install a longer buffer rail to adjust the rail to the mean temperature at some later time.

"When you consider the rail is going to be there some 15 or 20 years or longer, I think it is well worth it not to have to worry about having that compression force in your rail for surfacing in the summer, or excessive tension forces in the winter."

• Should the laying of welded rail be confined to any particular range of temperatures?

Answers to this question developed some variations in practice. The Santa Fe, said Mr. Beeder, has "no set limits, temperature-wise, for laying rail, except those that work themselves out from a practical standpoint. We have laid welded rail at 15 deg. and we have laid it at 112 deg. air temperature. Since it's pretty difficult to shake the men out of the bunk cars if it gets below 20 deg, I don't think we're going to lay very much rail at temperatures below 15 deg." He added that the Santa Fe has had "just about as many pull-aparts on the rail that was laid in one temperature as the other."

On the other hand, the Great Northern, said Mr. Cruse, holds "to rail-laying temperatures of 55 deg. to 75 deg. and we will not let them vary from that at all." It is true, he admitted, that this rule affects the rail-laying gangs. "They may have to start earlier in the morning and maybe quit earlier in the afternoon and go back and do some back work. But as long as we're going to lay the continuous rail, we're going to stay with those temperatures simply because we've gotten away from trouble by doing so."

Policy on the Great Northern, said Mr. Cruse, is to keep a record of the rail temperature when welded rail is laid. The records are used when making smoothing lifts of 1 or 1½ in., and have "come in handy in order that we don't lose control of the rail."

A record of atmospheric temperatures is also kept on the Monon when laying long rails, according to Mr. Allen. He cited an instance in which an out-of-face surfacing and lining job was being done on a newly laid nine-mile stretch of welded rail. During the progress of this work, he said, it was found that when the atmospheric temperature approached 10 deg above that at which the rail was laid "it was time to stop the surfacing work because the rail began to kink up pretty bad. Then you've got to get your track filled back in and line it up and discontinue the operation until your temperature gets down."

• What measures are taken when defects are located in welded rail?

Two different procedures were described by the panelists in answer to this question. If the temperature is out of line, said Mr. Cruse, "you can drill the rail and apply a couple of bars and normally make safe track out of it. Then in the evening or at night you can go out there and cut in a 39-ft rail or whatever length you desire to have."

If a defect is found in a string of welded rail on the Santa Fe, the practice, related Mr. Beeder, is to cut in a 39-ft rail and put in two joints, "but such defects so far are fairly rare." If the temperature is low at the time the rail is inserted after a pull-apart or break, the Santa Fe, he continued, has used a "weed burner on many occasions to run back and forth on the track . . . to warm the rail up and take up the slack in order to get the gap closed." Oil torches and tumble weeds placed alongside the rail and saturated with oil have also been used to heat the rail, he said.

Vol. 3, No. 2

Railway Executive News

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111 New South Road • Hicksville, Long Island, New York

"L & N LOOKS AHEAD at Railroad Communications and Signaling"

Timely article† by Supt. of Communications and Signals, P. P. Ash of the Louisville and Nashville Railroad, describes the L&N's integration of latest advances to meet present-day requirements of railroad signaling and communications. Author Ash details a long, impressive series of L&N advances.

"One of the most serious problems the railroads have to contend with," writes Ash, "and one in which the answer appears to lie in the field of electronics, is the problem of freight car hot boxes. Numerous wrecks and derailments caused by burned-off journals have resulted in millions of dollars loss both in damage to equipment and lading.

"On the L&N, to accomplish the desired results we use electronic equipment consisting principally of a sensitive instrument to detect infrared heat rays. Developed by the Servo Corporation of America, this delicate instrument reacts to the infrared rays radiated from the journal boxes as they pass the device."

The Louisville and Nashville Railroad is one of twenty-eight Class I American railroads using SERVOSAFE® Hot Box Detective* systems to guard against derailments, damage, and delays. More than 200 SERVOSAFE Hot Box Detective systems are in successful operation across the country to date. ■

†*L&N Looks Ahead at Railroad Communications and Signaling*, by Philip P. Ash, Supt., Communications and Signals, Louisville and Nashville Railroad – RAILWAY MATERIALS and EQUIPMENT, July-August, 1960.

*Protected by U.S. & Foreign Patents, including U.S. Patents No. 2,880,309, No. 2,947,857, and 2,963,575. Other U.S. & Foreign Patents Applied For.

Operator watching SERVOGRAPH® hot box detector recorder at L&N's big Boyles Yard, Birmingham, Alabama. L&N has a number of SERVOSAFE® Hot Box Detective* systems in operation at various locations.

C&EI Makes 28th Road To Go SERVOSAFE®

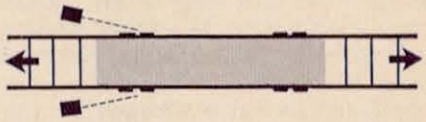
Main Line Scanners Are Bi-Directional

Twenty-eighth railroad to join the fold of SERVOSAFE® Hot Box Detective* users, the Chicago & Eastern Illinois has ordered five basic systems to guard C&EI rights of way.

Already in successful operation, two of the systems installed on the main line at Glover, Ill., and Cayuga, Ind., employ a single set of bi-directional infrared trackside scanners. Here in this single-track area the same pair of scanners inspects the journal boxes of trains going in either direction.

The scanners are installed in the conventional manner just outside the rail, their sensitive infrared eyes focused to view the trailing side of the journal boxes passing in one direction. Trains passing in the opposite direction switch transducer sequence so that the scanners look at the leading side of the boxes.

Bi-directional scanner operation is optional with the basic SERVOSAFE system or any of the five other SERVOSAFE expanded system groupings. ■

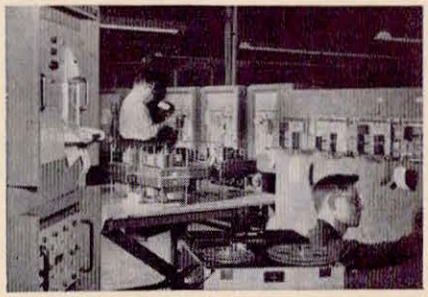


Coming or going, trains have journal boxes inspected by same pair of bi-directional trackside scanners.

Detective Demand, Rapid Delivery Met by Modern Production Methods

Skilled Servo electronic technicians man their stations as SERVOSAFE Hot Box Detective systems highball through production. Full-scale production keeps pace with Detective demand and assures immediate delivery.—■—Engineering, production, testing, quality control, inspection, and shipping all work as a team under one roof in Servo's spacious modern 134,000 square-foot Hicksville, Long Island, plant. Electronics specialists to the railroads, they are "serving safety through science." ■

Resembling batteries of mortars, long lines of infrared bolometers for SERVOSAFE trackside scanner units receive thorough inspection and testing before they are assembled inside their protective housings.



Skilled Servo electronic technicians check out modular components of rest of SERVOSAFE Hot Box Detective system – data processing unit, recorder, carrier, hot box locator, etc. – before and after final assembly of the equipment.

TO GIVE SHIPPERS BETTER SERVICE

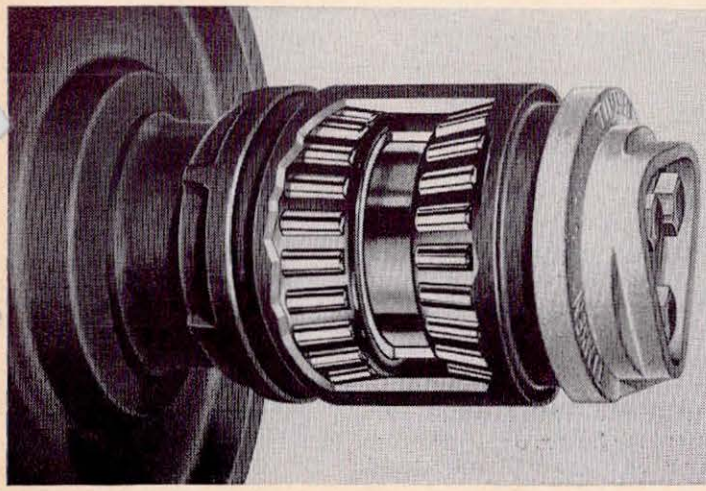
RAILROADS ARE MAKING THE "BIG SWITCH"

In their fight for a bigger share of America's freight business, more and more railroads are going "Roller Freight"—to give shippers what they need most: fast, reliable service.

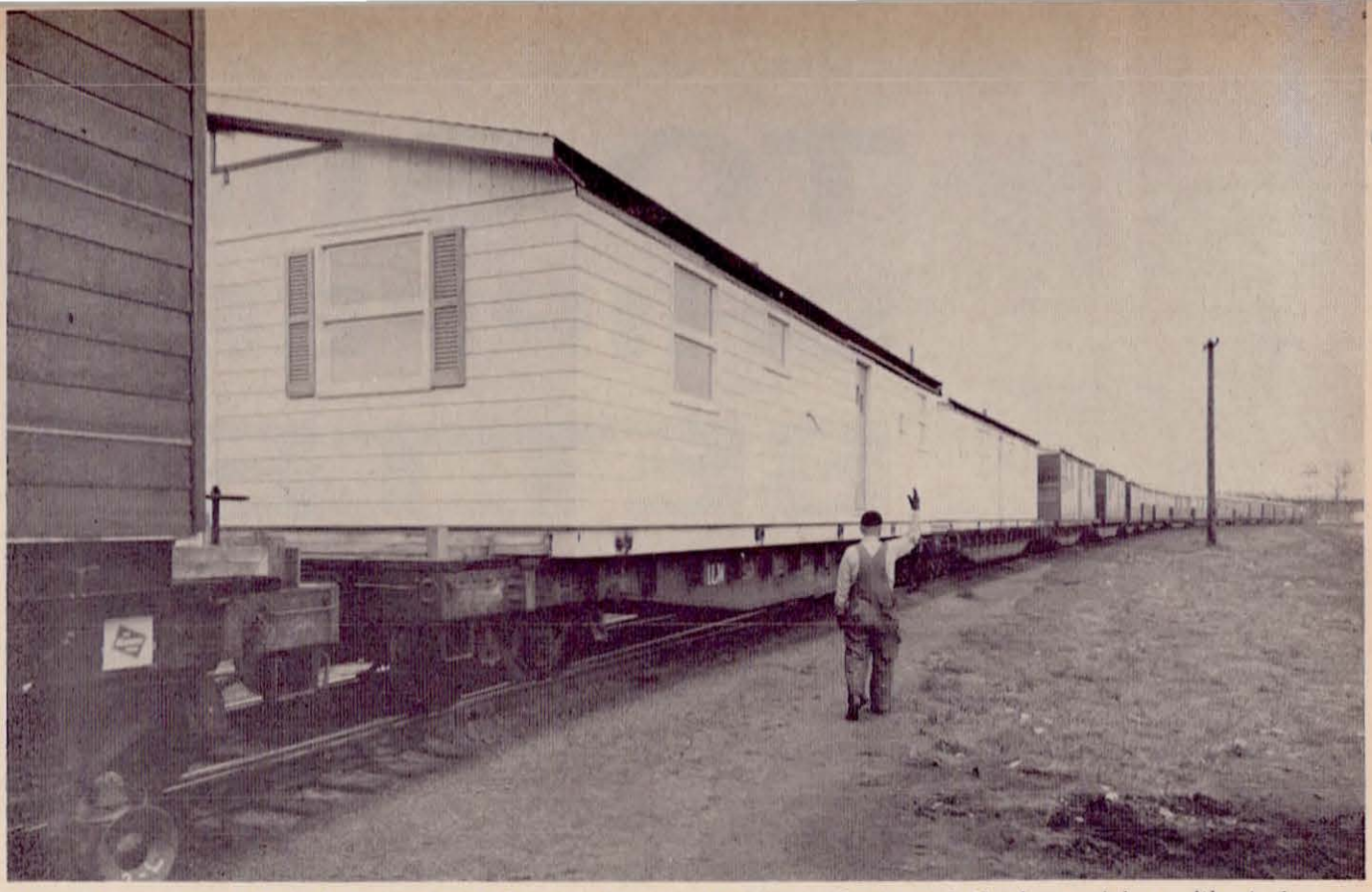
99 railroads and car operators are now mounting freight car axles on Timken® tapered roller bearings to solve the hot box problem—No. 1 cause of freight train delay—while cutting maintenance and operating costs to the bone. Cars equipped with Timken heavy duty "AP" bearings average millions of car-miles between setouts caused by overheated bearings.

Delays in terminals are cut, too. Timken high-mileage bearings require only a fast, visual inspection. And they'll roll four years without additional lubricant, eliminating the cost of extra lubricant as well as the time it takes to add it.

There are now over 69,000 Timken bearing-equipped freight cars in service or on order, with more being added every day. Now's the time to make the switch. There are five sizes of Timken "AP" bearings including those for Class G. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".



heavy duty
TIMKEN®
tapered roller bearings



LIKE A TOWN ON RAILS, prefabricated home sections are riding flat cars for 2,200 miles between Indiana and the West Coast—and they're arriving without damage. Open side of a house section is sealed watertight.

RRs Haul Houses for Alaska

► **The Story at a Glance: By the end of 1960, enough complete houses to build a sizeable town will have moved —by rail—from a small town in Indiana to Pacific Northwest ports for transshipment to Alaska.**

Midwest Homes, Inc., of Carlisle, Ind., had a tough shipping problem on its hands. Midwest turned to the railroads—and the carriers came up with the answers which got new business moving by rail.

Railroads, the Milwaukee noted recently, have a unique ability "to haul virtually anything anywhere and at any time." They're proving it again this year, with near-perfect damage-free movement of prefabricated houses from the Midwest to the Pacific Coast.

Thus far, the builder has shipped about 200 of the houses to Alaska points, with another 15 to 20 scheduled to move before the end of the year, depending on weather conditions at the delivery site.

Chicago & Eastern Illinois is the originating carrier for all movements of the houses. Most recent shipments have gone via a C&EI-Milwaukee routing. At various times such roads as the Union Pacific, Chicago & North Western and Great Northern, as well as the Elgin, Joliet & Eastern, the Indiana Harbor Belt and the Belt of Chicago have had a hand in movements to the northwest via the Chicago gateway. Southeastern lines have also handled a few homes, primarily models to be set up at several points.

The houses, built in two sections, are hauled over-the-road on special dollies from Carlisle to Oaktown, Ind., where they are loaded on the C&EI. Originally, house sections were loaded on flat cars in piggyback end-loading fashion from a ramp. Now there's a crane at Oaktown, which permits faster loading (up to about 20 cars per day).

Recent moves involved pre-fab sections 44 ft, 4 in. long and 11 ft, 8 in. wide. To center the maximum load height, however, sections are secured to the cars so as to create a total width of 12 ft, 3 in. Extreme height of load is 15 ft, 9 in. In other shipments, the carriers have also handled successfully 44-ft by 10-ft sections and similar size single-unit structures.

The houses aren't shipped as shells. They're painted and virtually ready for occupancy, with glass in the windows, appliances crated and kitchen cabinets built in, heating and wiring systems installed.

And, as the Milwaukee commented, the carriers have delivered the houses on the West Coast "without so much as a crack in the picture window." Claims, according to C&EI, have been negligible. Midwest did report a few broken windows on a recent move. But a combination of circumstances—rocks were found inside houses which were part of a shipment that moved out close to Hallowe'en—indicated pretty clearly that it wasn't rough handling by railroads that did the damage.

Midwest's houses are now moving on a volume rate (24-carlot minimum) placed in effect by C&EI and Milwaukee. And, although all-highway movement would be somewhat less costly and somewhat faster, indications are that the railroads will continue to pick up the bulk of the company's business.

Rail movement, a Midwest officer commented, "is the only way we'll ship our large home." Among the reasons: the difficulty in securing permits for over-the-road movement of outsize loads; and the security problems sometimes encountered in highway movements.

What's the business likely to amount to? Midwest says it has definite orders for another 200 houses for the Anchorage area next year—and it's hopeful of picking up additional business from several non-Alaska government installations where model homes are now exhibited.

Merry Christmas

W. H. MINER, INC. CHICAGO

Employees Go to Bat for Reading

► **The Story at a Glance: How the Reading has gone about winning the active participation of its employees in efforts to stay ahead of the competition was described by the road's president at a recent ASME meeting. Among other highlights of the meeting were a progress report on C&O's Railvans; and an account of the CNR's success in using cushioned meat racks in refrigerator cars as vibration absorbers.**

Intensive competition and a tight economy make it essential to set up a program to enlist employees' support. This observation was made by E. P. Gangewere, president of the Reading, in an address Dec. 2 before the Railroad Division, American Society of Mechanical Engineers, during the society's annual five-day winter meeting in New York.

With "Human Engineering" as his subject, Mr. Gangewere told how the Reading is enlisting its employees' support through a program called "Operation Bootstrap." This program starts, he said, with the "basic premise that, despite some of the differences we sometimes have with our labor organizations, we have infinitely more things in common than those that draw us apart."

In talks before the Reading's labor organizations he has presented a straight-from-the-shoulder discussion of the company's problems. In every case, he said, active support has been extended by the labor organizations.

Through personal talks, the company's newspaper and an illustrated booklet, "What We Have to Sell," the Reading is telling its story to employees. "We ask for help and naturally we want new business," Mr. Gangewere said, "but we want to make it clear that our company is a business in which management and employees have a real stake."

One of the Reading's labor organizations has produced and distributed 50,000 match covers helping to sell the company's service. Bumper stickers have been distributed among the employees. Members of the National Association of Railway Business Women are giving out pins emphasizing the selling program.

Mr. Gangewere cited the following answer given by one of the Reading's labor leaders to a question from other labor representatives asking for an explanation of the program: "The hour is late, but it is not too late if you still have a job. It is better to put a sticker on your car, for instance, than a 'For Sale' sign on your home. We know railroads are here to stay for a long time, but we want them to be more than just here. We want to see the great efficiency and economy they provide used in the interest of everyone."

At the luncheon, Mr. Gangewere; R. L. Wilson, vice president, engineering, American Brake Shoe Company and the chairman of the Railroad Division, and H. L. Decker, mechanical engineer, Pennsylvania, were honored by being made Fellows of the ASME.

The new chairman of the division is W. M. Keller, vice president—research, AAR.

In the technical sessions, William Van Der Sluys, associate director, research and development, Pullman-Standard, discussed push-pull suburban cars. A. V. Dasburg, manager, yard and terminal development, C&O, talked on design of classification yards to reduce lading damage. W. W. Peters, General Electric, outlined the design and development of its FVDL-16 diesel engine. And Mr. Decker of the PRR discussed strength requirements for special cars to transport 40-ft highway trailers.

Railvans Discussed

Chesapeake & Ohio Railvans are now moving mail and express between Detroit, Grand Rapids and Muskegon, Mich. These combination rail and highway trailers, under development since 1952 and in revenue service since early 1959, were discussed by G. J. Sennhauser, development engineer in the C&O research department. The road now owns eight of these vehicles and has operated all of them coupled together in a single train.

The trailer, equipped both with conventional highway wheels and a special single-axle railway truck either of which can be positioned by an air-actuated mechanism, is designed for operation in trains of 200 Railvans. Currently, they are operated at the rear of passenger trains behind a special adapter truck equipped both with the regular railroad coupler and the special Railvan coupler.

Early in 1959, the C&O reached agreement with Post Office Department and the Railway Express Agency for substitution of Railvans for conventional head-end equipment. Experimental Railvan service was inaugurated between Grand Rapids and Traverse City, Mich., a rail distance of 172 miles, on May 7, 1959 (RA, May 4, 1959, p 32). Three Railvans were assigned to this service, operating north on Train No. 25 and south on Train No. 26. One Railvan handled mail between Grand Rapids and the Traverse City post office; one handled mail between Grand Rapids and the C&O Traverse City depot, and the third handled express between Grand Rapids and the Traverse City Railway Express office.

On Nov. 5, 1959, additional Railvan service was instituted between Grand Rapids and Detroit—153 miles. Two Railvans were operated eastward on Train No. 14 and westward on Train No. 15.

Because of the mechanical success of the initial Railvan operations, coupled with the enthusiastic response from the Post Office Department and Railway Express Agency, on June 1, 1960, the C&O began the operation of two mail and express trains, Nos. 19 and 20, between Detroit and Grand Rapids, with continuing Railvan highway service to Muskegon. Prior to the use of Railvans it was impossible for the C&O to offer competitive service between Detroit and Muskegon because of the circuitous rail route between Grand Rapids and Muskegon. The limited number of Railvans available made it necessary to suspend service between Traverse City and Grand Rapids to provide equipment for the new trains.

Use of two vans on one round trip, Grand Rapids-Detroit, saved the Express Agency handling expense of $18,000 a year. The Post Office pays the railroads enough for just loading and unloading mail in baggage cars to enable it to send the business by highway up to 200 miles and, in addition, pays more for the rail transportation than for highway mileage. With Railvan, or some coordinated road-rail service, the railways could remain competitive and recover most of the Post Office and Express business, the C&O believes.

Direct labor costs for performing transfer work and switching charges are two items where equipment design and design philosophy can control costs to a large extent in combination rail-highway operations. With the exception of piggyback, coordinated systems utilize some form of side loading in order that the so-called "hot load" may be transferred without regard to serial loading or unloading, or serial transfer. Its flexibility is well illustrated by the operation at the Grand Rapids depot where transfer work is performed on the station platform without any interference to the regular station work or fouling of adjacent tracks. Railvan is the only system that

(Continued on page 48)

CONTINUOUS RAIL PRE-WELDED AT THE MILL!

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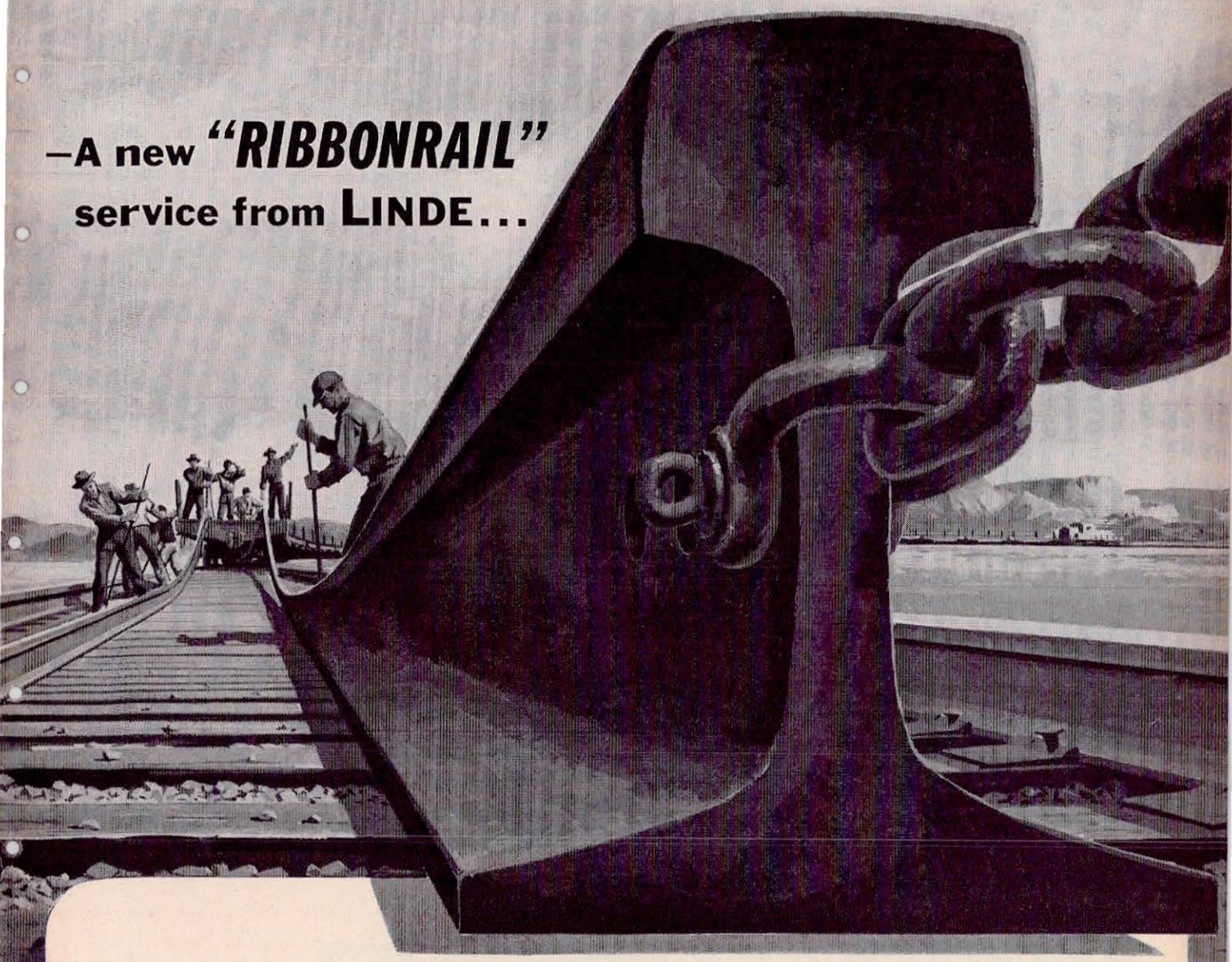

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BETTER PERFORMANCE

Average Brake-Shoe Mileage

BUDD — 90,000

TREAD BRAKE — 4,600

Average Wheel Mileage

BUDD — 110,000

TREAD BRAKE — 59,800

Average Truck Mileage between Overhauls

BUDD — 900,000

TREAD BRAKE — 450,000

AT LOWER COST

Number of Brake-Shoe changes per car/year

BUDD — 3.73

TREAD BRAKE — 72.96

Cost of Brake-Shoe changes per car/year

BUDD — $515

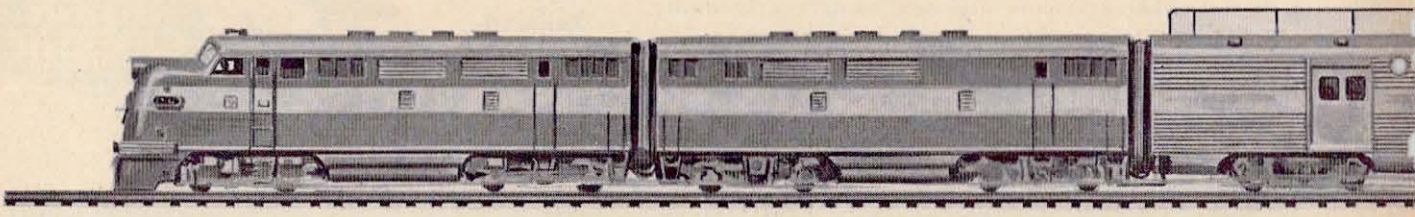
STANDARD C.I. — $3490

LONG C.I. — $4640

Total Number of Major Parts

BUDD — 112

TREAD BRAKE — 208



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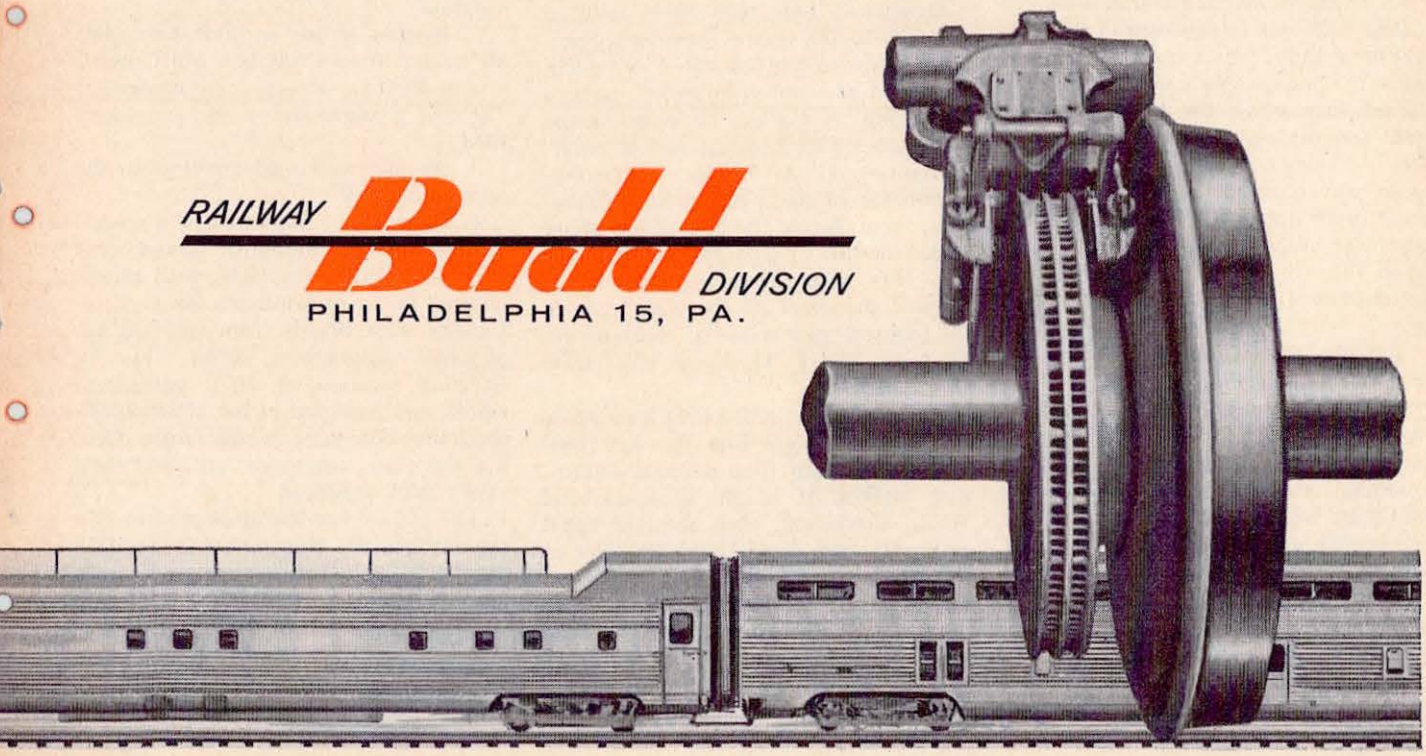

Milwaukee Trains Its Computer Staff

► **The Story at a Glance: A "people first, machines later" approach is giving the Milwaukee a good head-start on smooth integration of a new computer system.**

The emphasis has been on developing the staff that will design and program the EDP system, rather than on the machines themselves. Thus, when the road's IBM 7070 is put to work late in 1961, the Milwaukee will have the skilled personnel ready to get the most out of advanced EDP technology.

He was, until April 1959, a relief dispatcher at Beloit, Wis. When officers of his employer, the Milwaukee, learned that he had unexploited interests and aptitudes, they sent him to IBM for a test. He scored the highest grade IBM had then recorded in its Chicago office. He went then to programming school at IBM for a month, salary and expenses paid. Today, he's a member of a special staff group which is preparing the Milwaukee's paperwork for the coming of a computer.

At age 26, this employee has found a use for his formal education (he's a University of Wisconsin graduate in accounting). He's helping both himself and his employer. And he's helped prove a Milwaukee Road theory: That among its own people are the potential analysts and technicians who can make electronic data processing a useful tool for the railroad. Under the Milwaukee's approach to EDP, this calls for systems engineering as well as programming.

The 7070 will be installed in the Milwaukee's Fullerton Avenue accounting office in Chicago. No stranger to mechanized accounting, the Milwaukee has built steadily on a base laid down in 1915. Today, all major accounting areas are handled by machine. The road looks upon the installation of its computer as perhaps a bigger step forward than the application of its first punched-card machine nearly 45 years ago.

Initially, the computer will be used in four application areas: Freight revenue accounting, car accounting, stores accounting and payroll accounting. While all these are labeled "accounting" areas, the Milwaukee notes that there will be substantial integration of related data processing functions utilizing the same basic inputs:

- Freight revenue accounting embraces station bookkeeping and all traffic statistics.
- Car accounting outputs will include information needed by Carscope —Milwaukee's electronic car reporting center in Chicago for car tracing and distribution control.
- Stores accounting encompasses data for inventory management, as well as for financial control.
- Payroll processing will also develop personnel statistics and data for management reports on costs.

To provide prompt outputs in all four areas, inputs will be received at Chicago by wire communications from regional points. The road has six regional data centers operating now, will have nine when the present program is completed.

Through all the advance work, however, more attention has been paid to the men who will design and program the new EDP system than has been devoted to the machines themselves. There's a reason: To determine whether and how—to apply a computer, and then to apply it, there is no substitute for the creative human mind.

The Milwaukee is designing its computer system right now, preparing to convert to them when the time comes. For this, it needed a special staff. Within its own ranks, the road sought people with special aptitudes. It began looking for them, actually, in the spring of 1958. At that time, the nucleus of an organization was set up to make two studies:

- One on the possible need for a computer.
- A follow-up study on how a computer, if found feasible, could best satisfy basic needs for data.

Originally, four men were assigned full-time to the task of making a feasibility study. Comptroller R. F. Kratochwill, then assistant comptroller, headed the group. A C.P.A., he came to the Milwaukee with a background in public accounting. G. A. Kellow, special representative of the vice president-operations, now directs the conversion phase under the title of data processing manager. He's a graduate engineer. Other original members of the staff were S. H. Johnson, supervisor of machine accounting; and F. H. Joynt, chief traveling auditor.

As the project got rolling, two more men were brought into the staff full-time: J. Jacobsen, then assistant auditor, now auditor of freight accounts; and W. L. Sarakenoff, then assistant agent at Seattle, now special representative to the operating vice president.

This group worked on designing an outline for the data processing system that would best satisfy the Milwaukee's need and get the most out of a large-scale computer. It moved logically into the field of personnel—the number and kind of persons needed for conversion and operation, where they could be acquired, and how they should be trained.

As to number, a group of 25 was chosen as an ultimate goal for the conversion phase. As to kind of persons, the planners determined that they needed two:

- Those with computer aptitude for the technical specialty of programming.
- Those with computer aptitude and the experience necessary to undertake the systems design work required in the fields to which the computer will be applied.

Milwaukee's reliance on its own personnel for the conversion staff comes from its feeling that railroad experience is at least as important as computer experience or aptitude. To date, the theory is proving out. A broad range of experience is represented by the staff members. It's true that accountants predominate, but far more accountants were tested. The road has actively sought applicants from all departments.

The Milwaukee's employee magazine carried an article, in the spring of 1959, outlining what the 7070 would do, generally speaking, for the company. Included was a notice indicating how interested employees could apply for the conversion staff. Candidates acquired in this way, plus those turned up by asking supervisors for recommendations, were evaluated on four points:

1. Desire to work on the conversion and as part of the overall computer program.
2. Results of an aptitude test. The Milwaukee used a standard test to serve as a preliminary screening of applicants. The test is administered and scored by IBM.
3. An interview with directors of the conversion staff.
4. Successful completion of a special month-long programming school conducted in Chicago by IBM, with classes tailored to the Milwaukee's needs. Illustrations were drawn from railroad application. Instructors saved time by skipping mention of 7070 equipment which isn't included in the Milwaukee's particular computer configuration. During the class, employees received their salary, plus expenses.

The Milwaukee has attempted to give the aptitude test near where an aspiring employee lives. This has caused a problem: Suitable testing centers are scarce in Montana, Idaho and the Dakotas. Applicants in those areas, therefore, are sometimes hard to get to.

Even so, the Milwaukee has had an

(*Continued on page 34*)

General Electric's new U25B, 2500-horsepower mainline diesel freight locomotive with Bendix diesel fuel injection system.

BENDIX DIESEL FUEL INJECTION HELPS NEW LOCOMOTIVE DELIVER AMERICA'S HIGHEST H.P. PER AXLE

General Electric's newest diesel-electric locomotive, the U25B, is the largest and most powerful in G. E.'s universal line. The locomotive is built on four axles; its diesel engine, manufactured by Cooper-Bessemer to G. E. specifications, enables it to deliver 625 h.p. per axle.

Seven years in development, a two-unit U25B prototype has seen over 200,000 miles of demonstration service on numerous lines, and is now in operation on midwestern roads.

This new giant of the rails is 60 feet, 2 inches long and weighs 130 tons. It was designed for both speed and economy in mainline freight service. In addition to high horsepower, it features operational simplicity.

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Bendix fuel injection systems equip many other G. E. locomotives, including the auxiliary diesel engine on the world's most powerful locomotive, the 8500-h.p. gas turbine built by G. E. for Union Pacific.

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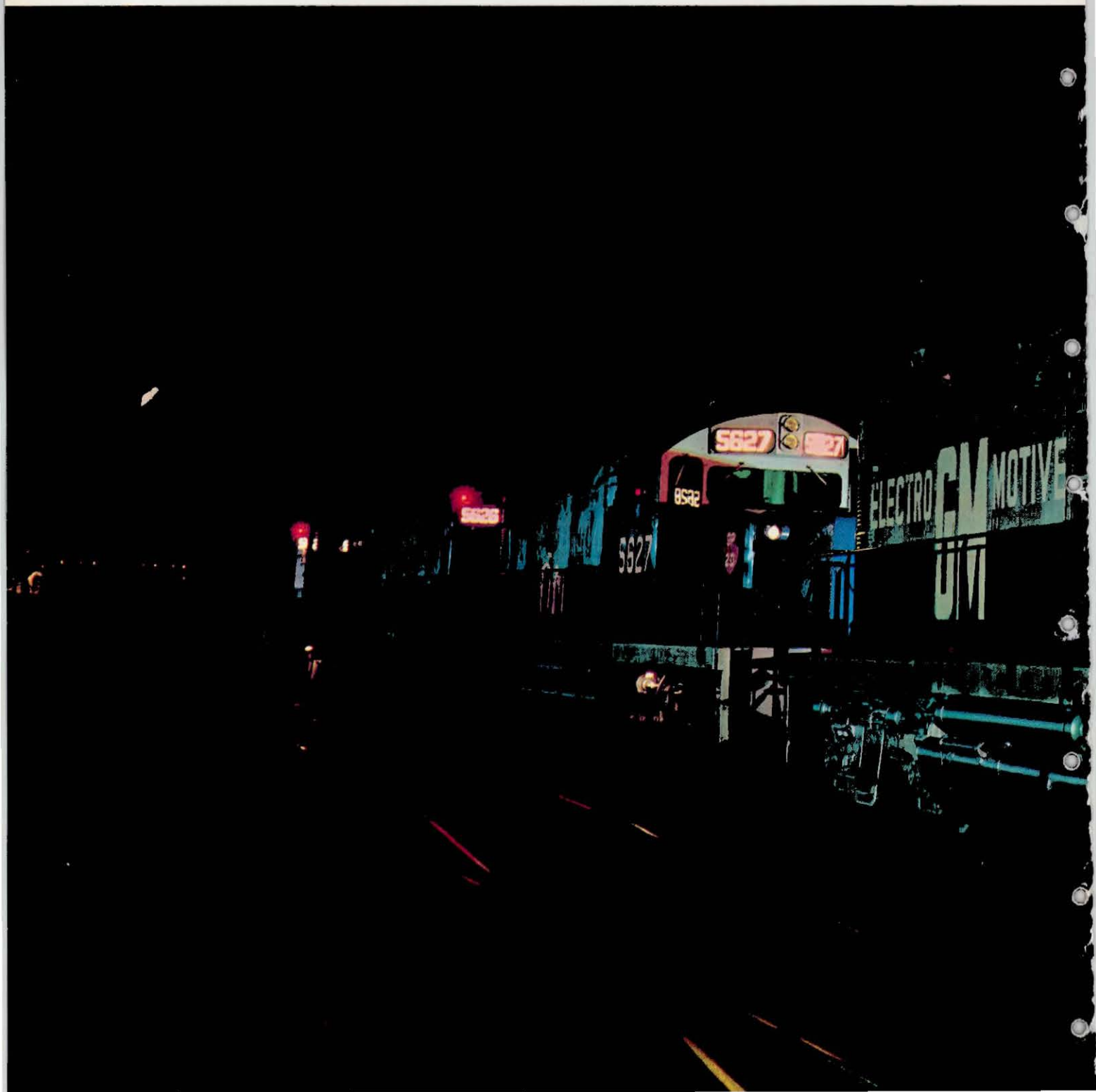
Electro-Motive's GP-20 demonstrates

UNIT REDUCTION



There's no rest for the GP-20, a new 2000-hp broad range locomotive, now being demonstrated on America's railroads. Climbing ruling grades, speeding "hotshots", lugging heavy freights, GP-20's are demonstrating unit reduction—one of the major economies in Electro-Motive's Locomotive Replacement Plan. Added capacity enables three GP-20's to replace four older units.

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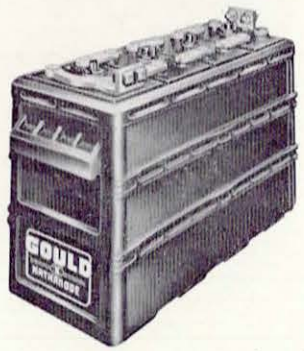

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says FRANK E. CHESHIRE, Manager of Sales
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"Objective planning is more than a trend—today freight carrying rolling stock needs to be designed to a *purpose*.

"Shipper requirements, increasingly wide variety of lading characteristics, mushrooming development and adaptation of loading, stowing, and discharging methods and appurtenances, the premium on time, and overall shipping costs, all dictate purposeful design.

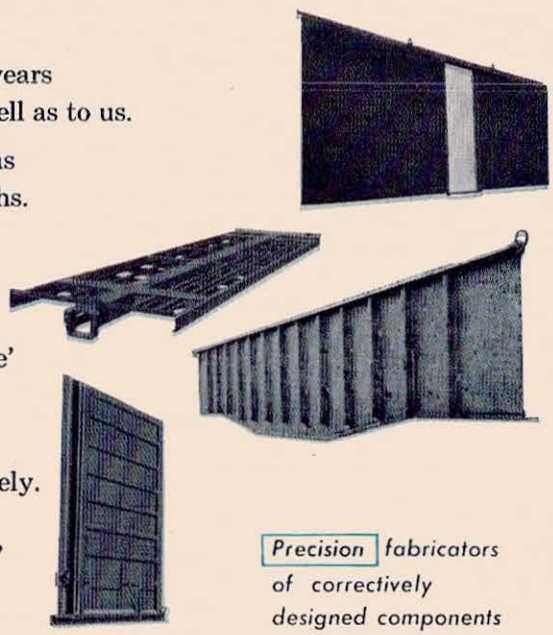
"When we started fabrication of freight car components at International Steel, our aim was to put *precision* into the design and construction of the freight car.

"Our achievements in this direction over the past ten years have been very gratifying to our customers as well as to us.

"But our aim to achieve precision in design as well as construction has led us along many paths. One of the chief elements of design (and indeed, one of the conditions for success in *any* undertaking) is definite purpose.

"An 'all-purpose' freight car is a 'no specific purpose' car for which plans are generalities. Result: limited adaptability and idle car days.

"At International Steel we plan objectively. Give us your most demanding purpose and let us put precision into its plan."



Precision fabricators of correctively designed components

INTERNATIONAL STEEL COMPANY
RAILWAY DIVISION • EVANSVILLE, IND.

MILWAUKEE TRAINS ITS COMPUTER STAFF (*Continued from page 28*)

abundance of candidates. In its first batch, for instance, there were 225 applicants. Of these, 13 were selected for programming school. On the basis of (1) their experience and (2) their programming aptitude as demonstrated in the month-long school, four of the 13 were placed on the conversion staff.

The second class turned up three more with suitable qualifications. A fourth candidate was chosen and added to the staff because he had had experience in field installation of specia equipment used to originate and transmit data. In total, 550 employees took the aptitude test and 41 were selected to attend programming school. Of these, 21 completed the programming course and were appointed to the conversion staff, which presently numbers 27 men. The staff includes a manager, an assistant manager for each of the five project teams into which the staff is organized, and four field men.

The road feels that its staff-building program will help to take care of other manpower needs in the future. When the computer is installed and the conversion is complete, trained personnel will be needed for methods research and for the continuous process of updating data-processing practices.

Outside of the computer staff itself, office employees will benefit from a general upgrading of jobs tuned to the needs of electronic data processing, thinks R. S. Stephenson, vice president-finance and accounting.

At the same time, the railroad will benefit from the computer's ability to turn out information faster and in more usable form.

Railroading After Hours with Jim Lyne

'NORMALIZED' ACCOUNTS—General Manager Savidor of the Israeli Railways was in our shop a few days ago for a brief visit. Among many interesting things he had to talk about was a practice called "normalization of accounts," as employed by most European railways under government ownership.

Revenues of most of these railways fail to cover full costs—the reason being (in part, at least) that they are usually required to operate some services at rates below cost. The "normalization of accounts" consists in recasting earnings figures to show what they would have been, if no arbitrary requirements were made (and if railways enjoyed in full the tax and other advantages extended to competing forms of transportation).

When the accounts of these railways are thus "normalized," they portray the railways in their true economic strength—a more favorable (and more accurate) showing than the actual earnings figures provide. A parallel "normalization" of the accounts of U.S. railroads—to offset all arbitrary governmental discrimination—might well show them as the most profitable enterprise in the country.

WAGE SCALES TOO HIGH?—I was talking to a banker the other day, a man who knows about all there is to know concerning the problems of capital supply for all kinds of transportation. He believes the entire transportation industry is in serious difficulty when it comes to securing adequate supplies of new capital—because all of them are "raising the wages of employees at a much faster rate than production per employee is increasing."

The situation of the railroads is more critical than that of other transportation agencies because all the money-finding highway, waterway and air transportation have to worry about is to finance their vehicles; their fixed plant is provided for them by government.

This banker does not believe transportation can survive in private ownership if it persists much longer in the practice of granting annual wage increases. Transportation has got its wages up on stilts, far higher than the rest of American industry. No wonder industry is so busy trying to develop substitutes for transportation service.

ROADS OF 45 A.D. — Should transportation facilities—e.g., railways and highways — be planned by central government to embrace a whole country, or should they be developed locally in response to local demand?

In New England, and in Old England too, there's no doubt that it was the latter approach that was followed. Those railroads in North America that were planned on a scale embracing half a continent or more were those that were built into virgin territory, largely in advance of the population. The question comes up because, in this country (and more recently in Britain), the highway builders are now laying out their highways on a country-wide scale—never mind the local geography, just bulldoze away everything in the highway builder's path. Historic old trees and buildings—all is rubbish to the highwayman.

An English archeologist, Jacquetta Hawkes by name, pointed out in a recent article in the N. Y. Times magazine, that British highways are now being planned as the Romans planned them—just draw a straight line from here to there, and that's it. In fact, some of the modern British roads are being built right on top of the old Roman roads. Miss Hawkes observes that there have been only two periods in British history when the road system has been adequate to the needs of traffic—one under the Romans and "in the eighteenth century when stage coaching produced the turnpike roads."

Miss Hawkes prefers the Roman approach. My preference would be for the turnpike method—when the roads went where the people who used them wanted them to go, and when the people who used the roads paid for them—no charge to the taxpayers.

RR SONGS ON RECORDS—My friend Bob Coutts of the Train Dispatchers has sent me a set of recordings of railroad songs, compliments of the Railway Labor Executives Association. There are the old standbys, such as "Casey Jones" and "Wreck of the Old 97," and a sprinkling of unionist propaganda. But, on the whole, a good job. I'd like to see something like this done—from the standpoint of all railroad people, and not unionists alone.

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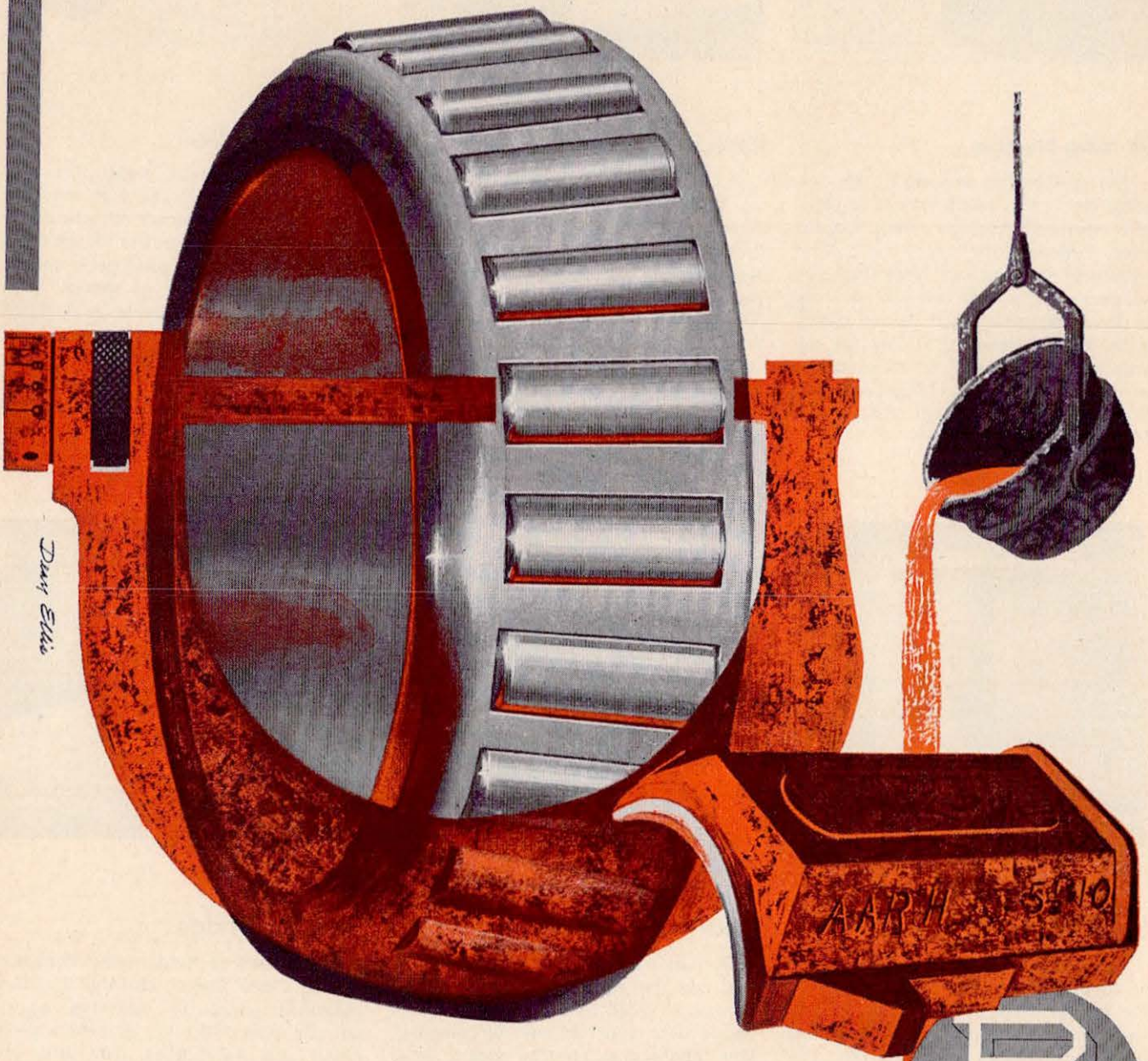


BRENCO INCORPORATED

316 East Main Street, Richmond, Virginia

BRENCO BEARINGS

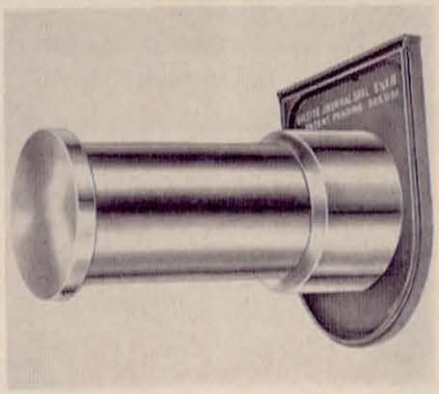
New Products Report

De-icing Nozzle

The AiResearch de-icing nozzle "de-winterizes" areas which cannot be cleared by conventional snow removal equipment. Following the rotary snow plow, it removes snow and ice from frogs and switches. The nozzle can also be used to de-ice the under-carriages of rolling stock. It is designed primarily for use with AiResearch GTC 85-90 small gas turbines. *AiResearch Manufacturing Div., Garrett Corp., Dept. RA, 402 S. 36th St., Phoenix, Ariz.*

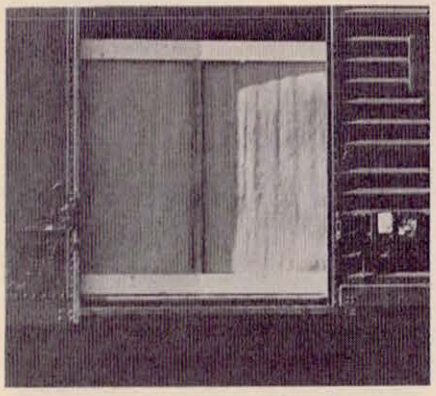
Reefer Car Door Gasket

A refrigerator car door gasket of du Pont neoprene synthetic rubber is now being applied on plastic car-door liners being installed on 1,025 new temperature controlled refrigerator cars of the Pacific Fruit Express Co. The gasket, which is expected to last the life of the car, is said to be resistant to corrosive materials and unaffected by low temperatures. *Landis Industrial Co., Dept. RA, 1525 Alviso St., Santa Clara, Calif.*



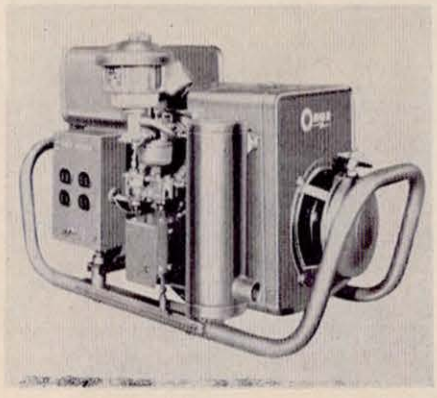
Journal Box Seal

The Oiltite journal, made from synthetic rubber, reinforced with steel inserts, is said to eliminate oil loss at the rear of the box, regardless of the level of free oil, and give good performance without journal stops or special bearings. The seal is available in 5 by 9, 5½ by 10, and 6 by 11 in. sizes, and is AAR-approved for 1,000 car sets in interchange. *Railway Car Equipment Co., Dept. RA, 1400 E. Tremont St., Hillsboro, Ill.*



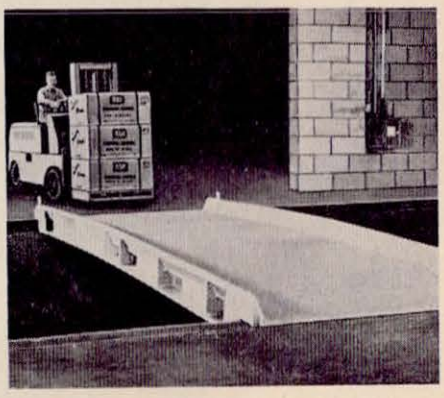
Grain Door

Six- to 9-ft doorways, it is said, can be covered with a new grain door without special harness or extension bands, and cars can be stripped for reloading in 5 min without special tools. The door center post is reinforced by a tension cable which connects grain doors on each side of car. In long-haul tests for 3½ years, often with over 110,000 lb of grain, grain loss due to door failure was under 1%. *Bemis Bro. Bag Co., Dept. RA, 408 Pine St., St. Louis 2.*



Electric Plant Speed Control

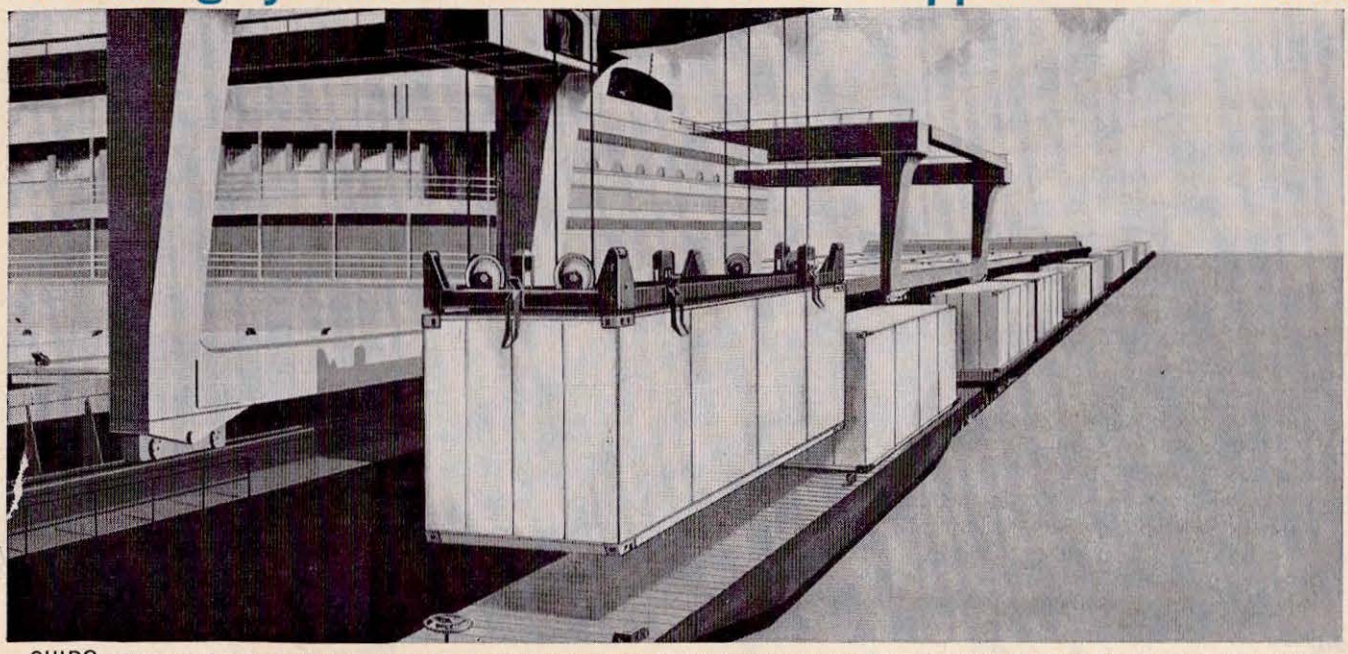
Portable electric generating plants can now be equipped with a newly-developed speed control which reduces engine wear and fuel and oil consumption. The system reduces engine speed to 1,800 rpm at no load and automatically increases engine speed as load is applied. Idle-Matic speed control is standard on series 105AK and 205AJ and optional on 1500 and 2500 watt Onan plants. *Onan Div., Dept. RA, Studebaker-Packard Corp., Minneapolis, 14.*



Industrial Bridges

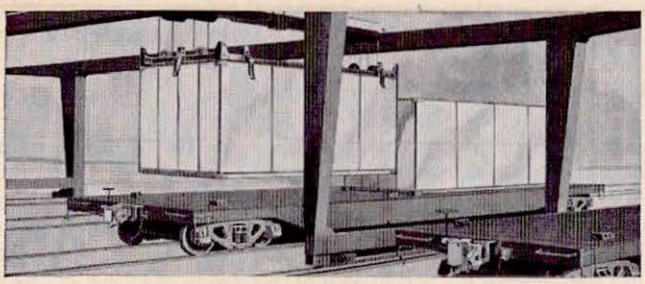
Magnesium is used in the construction of a new line of movable standard industrial bridges for spanning depressed rail spurs and other divided areas in plants and warehouses. The units are of a compact design which permits easy positioning and removal with a fork truck. Standard models are from 10 to 24 ft long. Load capacities range up to 16,000 lb. Special sizes are also offered. *Magline Inc., Dept. RA, 1900 Mercer St., Pinconning, Mich.*

The first complete, fully automatic cargo container handling system to be offered to all shippers and carriers

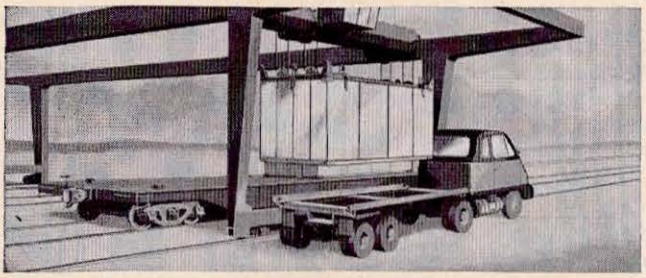


SHIPS National's Speedloader System permits ship operators to adapt present cranes for cargo containerization. Containers are stowed in holds or on weather decks.

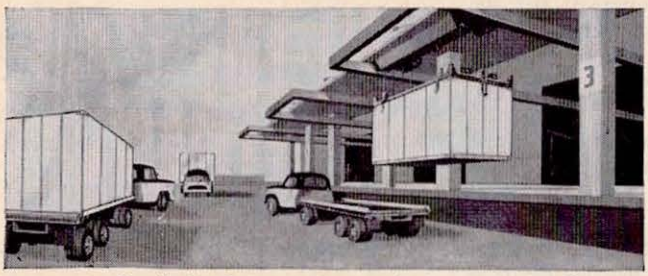
NATIONAL *SPEEDLOADER* SYSTEM



RAILROADS Convert cars to Speedloader operation merely by equipping flat-cars or piggyback cars with special anchor castings. Selective side-loading speeds container handling.



TRUCKS Large or small fleets can convert to the Speedloader System of containerized cargo handling with minimum capital investment.



PLANTS Speedloader System saves on packaging, crating, handling costs. Speedloader components can be used with present materials handling equipment for automatic, semi-automatic, or manual operation.

Because of its ready adaptability to any carrier, container or crane, the National Speedloader System permits users to buy their containers and cranes *competitively* from commercial producers of these items. National supplies *only* the essential Speedloader components.

A fully automatic cargo container handling system, the National Speedloader concept of container handling slashes costs through increased capability for cargo handling.

Other equally important Speedloader and containerization advantages: Drastic reduction in terminal and turnaround time keeps equipment on the move . . . reduction of damage to merchandise in transit . . . elimination of theft and pilferage. A request on your business letterhead will bring you the full National Speedloader story by return mail.

A-961A

NATIONAL *SPEEDLOADER* SYSTEM

Transportation Products Division

NATIONAL MALLEABLE and STEEL CASTINGS COMPANY

Cleveland 6, Ohio

'Olympian Hiawatha' to End 50-Year Run

One of America's best-known passenger trains is scheduled to come off the timetable Jan. 8. The Milwaukee last week filed with the ICC a statement giving notice of intent to discontinue the "Olympian Hiawatha" between Minneapolis and Seattle-Tacoma, Wash.

No change will be made in the Chicago-Minneapolis part of the run, where the "Olympian" has been operating consolidated with the "Afternoon Hiawatha" northbound and the "Morning Hiawatha" southbound.

Mounting losses caused by declining patronage led to the Milwaukee's action. President William J. Quinn noted that "the deficit incurred on a strictly out-of-pocket basis places an unrealistic burden on the railroad in its effort to provide other services for which patronage indicates need. If we are to continue to serve the shipping public economically, we must eliminate deficit operations."

The "Olympian's" Minneapolis-Seattle-Tacoma losses, on an out-of-pocket basis, amounted to $2,274,180 in the 12 months ended Oct. 31, 1959; and $2,158,158 in the 10 months ended Aug. 31, 1960. On a fully-distributed cost basis, net losses for the same periods were $3,585,597 and $3,280,763.

Revenue per train-mile west of Minneapolis was $2.40 in the 10 months ended last Aug. 31. Out-of-pocket expenses were $4.36, and as a result the trains showed a loss of $3,538 for each one-way trip between Minneapolis and the West Coast.

Surrender didn't come without a fight, the Milwaukee pointed out. An intensive promotional and advertising campaign was conducted. Innovations such as the "travel-sleep-dine" package and a daily "kaffee-klatsch" (free coffee and cookies) were tried. But still the losses mounted and, the railroad finally conceded, "the public's use of the trains has declined to the point where continuing their operation is economically unsound."

Thus, ICC permitting, the "Olympian Hiawatha" will stop running Jan. 8—ending almost 50 years of daily transcontinental passenger service which began May 28, 1911.

Research Center Impresses Russians

Russian observation of U.S. railroads zeroed in on the nation's largest railroad center last week, as the 10-man Soviet delegation took a six-day look at Chicago.

Their principal stop: the AAR research facilities on the campus of Illinois Institute of Technology. And, with rapid-fire translations by C&O's Sergei G. Guins knocking down the language barrier, the touring Russians got a comprehensive picture of how research works for American railroads.

Questions posed by the visiting railroad officers at the AAR lab seemed aimed in two directions: to attempt to draw comparisons as to the extent and importance of rail research in the two countries; and to determine if U.S. researchers are working on (and making progress with) problems which are also under study in the Soviet Union.

At several points, U.S. railroad officers prefaced their discussion of projects or equipment with the note that answers on similar subjects weren't forthcoming when the American delegation toured Soviet rail installations last summer.

At most stops, Soviet cameras clicked busily and pencils skipped across notebook pages. Imperturbability gave way to geniune interest as the tour of the vast research facilities progressed. Visibly impressed, the touring Russian railroaders made an equally deep impression on the technicians at the AAR Research Center. Comparing the Soviet delegation to other visitors, one technician commented, "Most of the dignitaries that come through here are bored stiff, but these fellows asked more questions than we could answer. We had to practically drag them from some of the tests to keep the tour on schedule."

Speaking at a luncheon at the Illinois Institute of Technology on Tuesday, Minister B. Beschev, leader of the delegation, called the research center "very interesting." Mr. Beschev said, "I believe that future acquaintance with American railroads will show us the practical application of the research carried on at this center."

The delegation also toured a passenger car repair shop before returning to their hotel and an evening of sightseeing and window-shopping around Chicago's Loop.

One of the high points of the Chicago stop came on the first day the delegation was in town—a trip to the Chicago & North Western terminal for a 40-minute look at North Western's push-pull commuter streamliners.

The Russian railroaders, one observer commented, "acted like typical commuters" seeing the equipment for the first time. They saw similarities to existing MU trains in the Soviet Union—but, as C&NW officers pointed out, there are also significant differences (e.g., diesel-electric power and all power for lighting, heating and air conditioning coming from a locomotive that is never switched). Low-maintenance features of the car interiors also excited interest—as did other specifics of train construction and performance.

For the first time since their arrival over two weeks ago, the pace had slowed enough for them really to enjoy themselves. How did they like what they had seen so far? "Happy, everyone is happy," replied Nikolai Berdennikov, one of the two English-speaking members of the delegation.

Also included in the Chicago visit were stops at a piggyback terminal, freight station and motor terminal, a Flexi-Van terminal and inspection of a suburban interlocking plant. The group left Chicago Thursday evening enroute to Memphis and New Orleans.

The final week for the tourists will find them stopping at St. Petersburg and Jacksonville, Fla., Richmond, Va., and Washington, D.C., with possibly a free day for sightseeing in New York before returning home on Dec. 19.

Dividends Declared

ATCHISON, TOPEKA & SANTA FE.—common, 30¢, quarterly, payable March 1, to holders of record Jan. 27; 25¢, extra, payable Jan. 12, 1961, to holders of record Dec. 8; 5% non-cumulative preferred, 25¢, semiannual, payable Feb. 1, 1961, to holders of record Dec. 30.

BANGOR & AROOSTOOK.—20¢, payable Dec. 30 to stockholders of record Dec. 15 who have not yet tendered their shares in exchange for Bangor & Aroostook Corp.

CINCINNATI, NEW ORLEANS & TEXAS PACIFIC.—5% preferred, $1.25, quarterly, payable March 1, June 1, Sept. 1 and Dec. 1 to holders of record Feb. 15, May 15, Aug. 15 and Nov. 15, respectively.

DELAWARE & HUDSON.—35¢, reduced, payable Dec. 28 to holders of record Dec. 9.

ERIE & PITTSBURGH.—guaranteed stock, 87½¢, quarterly, payable Dec. 12 to holders of record Nov. 30.

KANSAS CITY SOUTHERN.—common, $1, quarterly, payable Dec. 30 to holders of record Nov. 30; 4% non-cumulative preferred, 50¢, quarterly, payable Jan. 16 to holders of record Dec. 30.

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It's got more production potential . . . more versatility. A new integral hydraulic system with under-the-hood mounting of tank, pump and valves frees the front and rear of the tractor for other equipment. Hydraulic bulldozers for the D6 have been improved with a new center-pivoted cylinder mounting to increase blade lift/drop range. Straight and angling bulldozers, rock rakes, winches, special clearing blades, back rippers equip the D6B for almost any maintenance, construction or emergency job.

You get economical operation. The famous Cat fuel injection pumps are in new easy-to-service housings. Precombustion chambers condition incoming fuel for controlled complete burning—help deliver maximum horsepower from heavy, economy-type fuels.

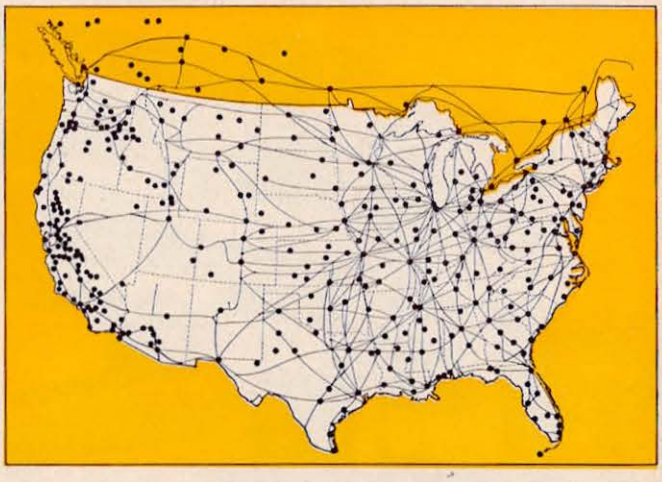
Maintenance costs are kept to a minimum. Caterpillar dependability and efficiency pay off in lower cost per hour operation. A dry-type air cleaner removes 99.8% of all dirt from diesel intake air. Serviced in five minutes, it cuts maintenance time by as much as 75%, eliminates oil costs. Optional hydraulic track adjusters require only a grease gun to make proper track adjustment. Lifetime lubricated track rollers never need lubrication or greasing. The exclusive Caterpillar oil clutch provides up to 2,000 hours of service without adjustment. All of these features help you roll up more availability instead of repair bills.

The D6 works almost anywhere. It's compact enough to work in tight places. It's got power to tackle the tough jobs. You can move it from job to job in a hurry.

No parts inventory needed . . . with the D6 or any other piece of Cat-built equipment. A nationwide Cat Dealer organization maintains more than 300 stores throughout the U. S. You don't have to tie up capital in a space-robbing parts inventory. Parts are as close as the telephone.

Your Caterpillar Dealer will welcome the chance to show you what the new D6 can do on your job. He'll give you the complete facts on the long-term economy and availability that are built into the new D6B.

Caterpillar Tractor Co., General Offices, Peoria, Ill., U.S.A.



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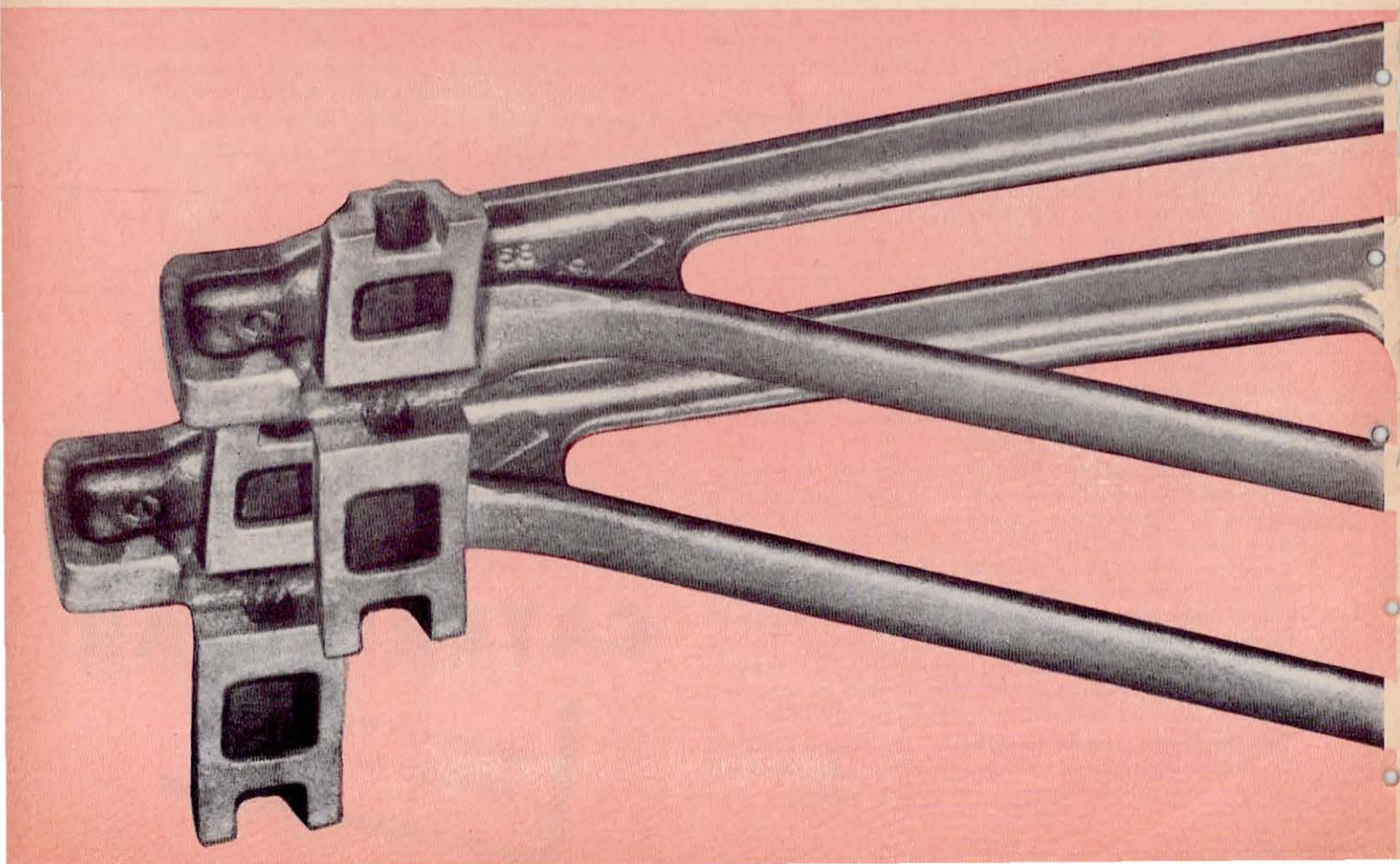

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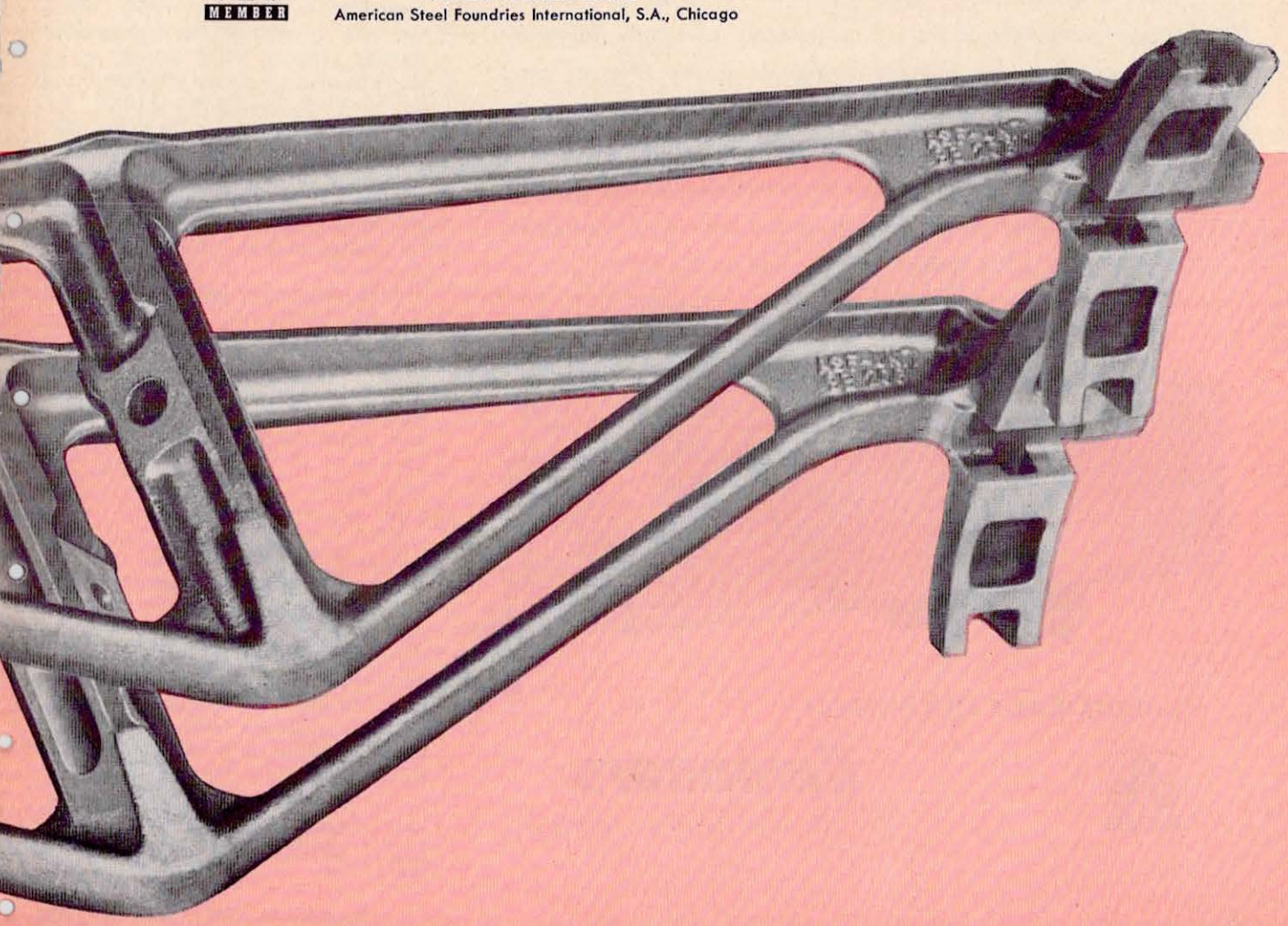

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A SUBSIDIARY OF RYDER SYSTEM, INC.

Managemen

Management development, perhaps the most important single function of any corporate structure, is at the same time one of the least understood elements in our modern economy. A new book, published this week by Simmons-Boardman Books under the sponsorship of the Railway Progress Institute*, could be helpful in achieving wider understanding of management development problems.

Management Development in a Changing World, by George N. Daffern, grew out of a resolution introduced at the annual meeting of the Railway Progress Institute in 1956. At that meeting, Member Representative R. M. Coultas of the General Electric Co. called for an RPI member committee study of the problem of recruitment and training of management personnel for the railway supply industries. The resolution was unanimously adopted, with Mr. Coultas named as chairman of the Committee on Executive Development which was then formed.

As RPI President Holcombe Parkes notes in the Foreword to *Management Development*, during meetings of this committee in 1957 and 1958, "attention was directed to the management training program being carried on by the Canadian National Railway and the work of George N. Daffern, the Manager of the CNR's Personnel Section at Montreal. He was invited to meet with the Institute's Committee, as part of its program of examining new developments in the field of management training and development, and he did so . . .

"The impression Mr. Daffern made on this group was amazing," Mr. Parkes continues. "The members present plied him with questions for more than five hours and the meeting closed with unanimous agreement that some way should be found to provide wider circulation for the challenging and constructive views expressed by the guest speaker."

What was done was to enter negotiations with Mr. Daffern for a manuscript which could be produced in book form under the auspices of the committee, to be published in 1960. In the meantime, Mr. Daffern resigned his post on the Canadian National to return to his native England, where he is now associated with the management consulting firm of Mead Carney & Co., Ltd. This did not hinder the

*MANAGEMENT DEVELOPMENT In A Changing World, by George N. Daffern, 121 pp. Simmons-Boardman Publishing Corp., 30 Church St., New York 7, $4.00

evelopment

progress of the book, however.

Among the points which the RPI felt needed wide dissemination, and which are covered in *Management Development* are:

- "Too much time and money have heretofore been spent by corporations in efforts to educate individuals rather than to improve the job performance of individuals.
- "Management is 'Know Why' rather than 'Know How.'
- "Management development as a recognized and organized activity has gone astray in attempting to educate people to become leaders. What is needed is an improvement in leadership per se.
- "The proper objective of management development is an improvement of the job being done . . . not the improvement of the individual in the hope that he will do a better job.
- "The railroads were highly resourceful and determined in their pioneering days when they had to be in order to survive. This resourcefulness and determination are inherent in railroad people today. The problem of survival is present once again in the form of vigorous competition. Therefore, we must find a better way to uncover and develop the latent power of management."

In sponsoring the work, RPI says:

"This work is offered by the RPI's Committee on Executive Development, not as a final answer to a complex problem, but as an honest and sincere contribution to the thinking of corporate executives on a problem of common concern."

Management Development in a Changing World begins, appropriately enough, with a description of the way the management world is changing. Next come chapters headed: "Competition and Bureaucracy," "Management of People," "Towards Better Management," "Management Performance Appraisals." The final four chapters are concerned with the evolution of a performance appraisal process, covering separately the purpose, the method, results and management inventory as applied in the performance appraisal process.

As Mr. Parkes points out in his foreword, "Because of the author's long experience in railroad personnel work and the deep interest in railroads shared by all members of the Institute's Committee, it is inevitable that this book should have something of a 'railroad flavor.' However, it should be obvious that the principles and practices it describes apply to *all* corporate organizations. . ."

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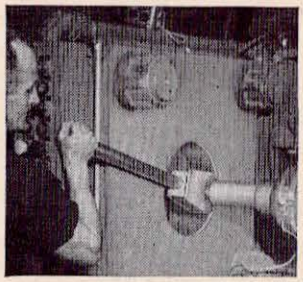
LOOSENS TOUGH NUTS THAT EVEN POWER TOOLS CAN'T BUDGE

WHEEL LUGS on buses and trucks usually require the "beef" and skinned knuckles of two men to loosen. SWENCH does the job faster at less cost.



FROZEN HEX NUT on this molding machine caused 36 hours down time when removed by ordinary methods. Just 7 SWENCH impacts moved this tough baby.

RAILROAD HOPPER DOORS easily rust shut. Often it takes a 4-man crew a full day to loosen them. One man and a SWENCH does the job in just 7 or 8 impacts.

Discard that old-fashioned sledge. Put your torch away. Think before you buy another power wrench. Here's a *manual* wrench that delivers more effective torque than any other tool its size.

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Power wrenches deliver their torque as many tap-like blows. Ordinary hand wrenches apply a steady torque. Swench, on the other hand, builds up power in its super-strong spring for a mighty wallop, which is released as torsional impact every time the handle is advanced slightly more than 30 degrees. Swench multiplies torque applied to the handle more than 15 times.

Now one man can "Swench off"—in minutes—nuts that used to take a full crew a working day to burn or sledge off.

Swench is completely portable. No power connections needed. No auxiliary equipment to man and maintain. You save on man-hours. You save on maintenance. You save on initial cost. (Swench costs *much less* than a power impact wrench.)

You don't believe it? One demonstration will convince you. Line up your toughest job and give your Industrial Distributor a call. If Swench can't do it, no tool can.

Don't wrench it—SWENCH IT!

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MARQUETTE DIVISION

1150 Galewood Drive, Cleveland 10,Ohio

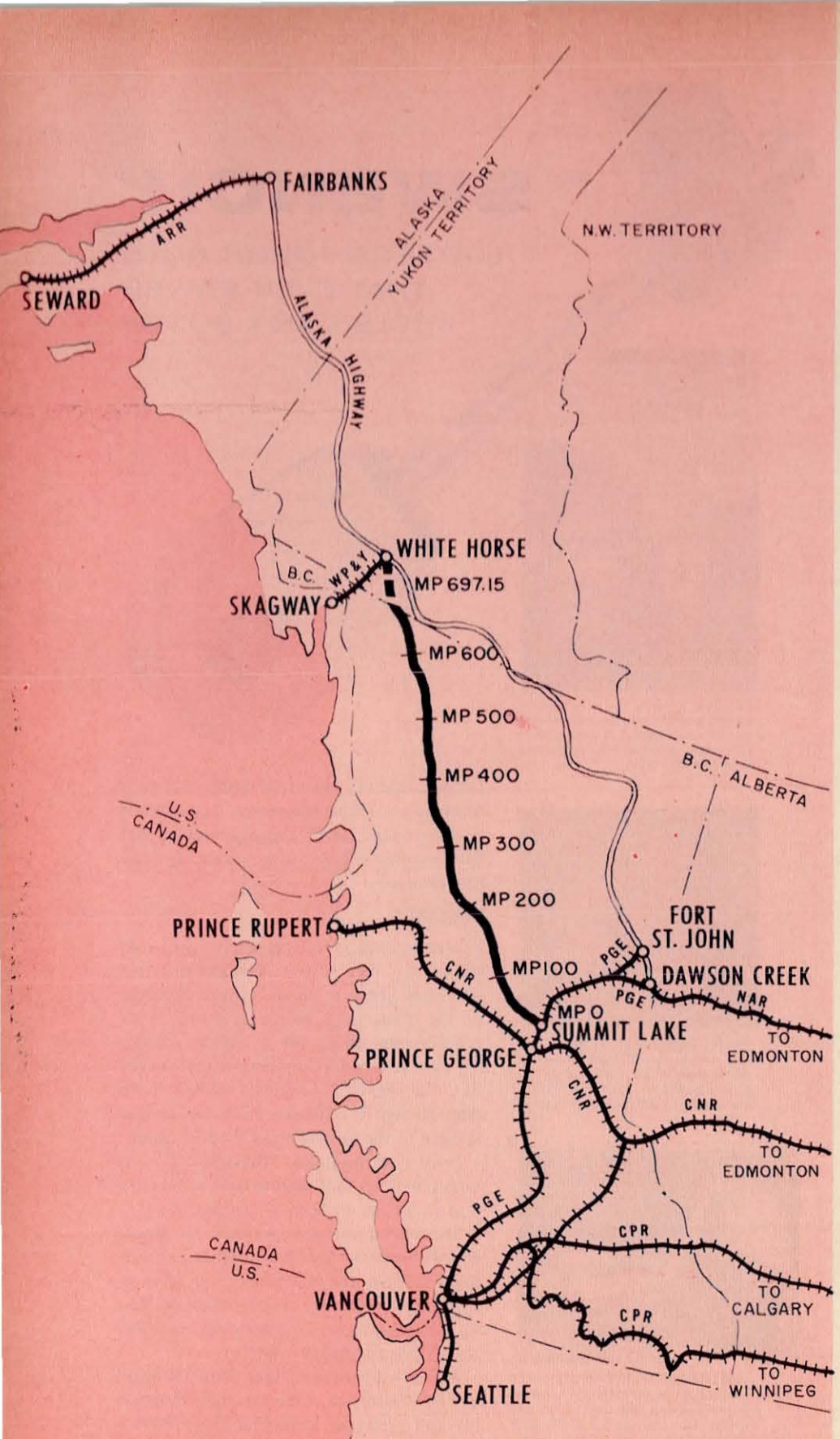
Propose

► The Story at a Glance: Aerial reconnaissance and mapping were used extensively in preparing the route and general plan for the proposed Pacific Northern Railway. The PN will run through largely uninhabited mining and timber areas of northern British Columbia. Construction of the 697-mile line, however, will not begin until various financial problems have been solved. Here's how the proposed route was mapped.

Backers of the proposed Pacific Northern Railway say the British Columbia project has a sound financial basis. The railway would, they point out, open up one of the major undeveloped areas in North America.

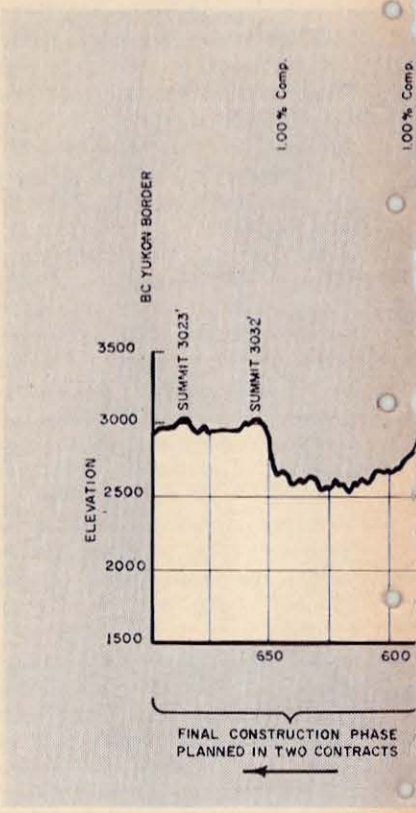
The backers, headed by Swedish financier Axel Wenner-Gren, include United Kingdom and Canadian interests.

Until last month, there were prospects of financial support from the United States government in building the 697-mile line, which would be a key link if a rail line were to be built connecting Alaska and the main U.S.



LEGEND

▬▬	PROPOSED PACIFIC NORTHERN RAILWAY ROUTE
PNR	PACIFIC NORTHERN RAILWAY
ARR	ALASKA RAILROAD
PGE	PACIFIC GREAT EASTERN RY
WP&Y	WHITE PASS & YUKON RR
NAR	NORTHERN ALBERTA RAILWAY
CPR	CANADIAN PACIFIC RAILWAY
CNR	CANADIAN NATIONAL RAILWAYS



◄ **ROUTE** of the proposed Pacific Northern Railway would traverse largely uninhabited, resource-rich, northern area of British Columbia.

PNR Route Was Mapped by Air

railroad network. Such prospects were considerably diminished, however, when a Battelle Memorial Institute report was made public by the Alaska International Rail and Highway Commission headed by Senator Warren Magnuson of Washington.

The Battelle report concluded that improved highway and marine facilities could handle the "foreseeable interregional freight traffic volume" at lower freight costs than would be possible if it were necessary to build new rail facilities. This appeared to leave financial aid from the U.S. government for a rail link to Alaska dependent on the remote possibility that such a line would be needed for defense purposes.

So far as the route and general plan are concerned, though, work on the Pacific Northern can begin at any time.

To get the necessary data for planning the railway in detail, Col. Sidney H. Bingham (ret.) of New York was retained as consulting engineer by the Wenner-Gren B.C. Development Co. Ltd., with Minshall and Smith Engineering, Ltd., of Vancouver as associate consultants. Their assignment was to develop a general plan for a railway from the Prince George area (see map) to the Yukon Territory border. Also required: a route map and a cost estimate. The survey was not required to include details on the route beyond the border of British Columbia and Yukon Territory. The proposed route, though, had to be compatible with plans for possible later expansion through Yukon Territory into Alaska.

After preliminary studies of the terrain, it was decided that a map scale of one inch to 400 feet and contour lines at 10-ft intervals would be satisfactory for making design studies and cost estimates. Arrangements were made with several Canadian aerial survey and photogrammetry companies to begin the process that would lead to maps of that scale.

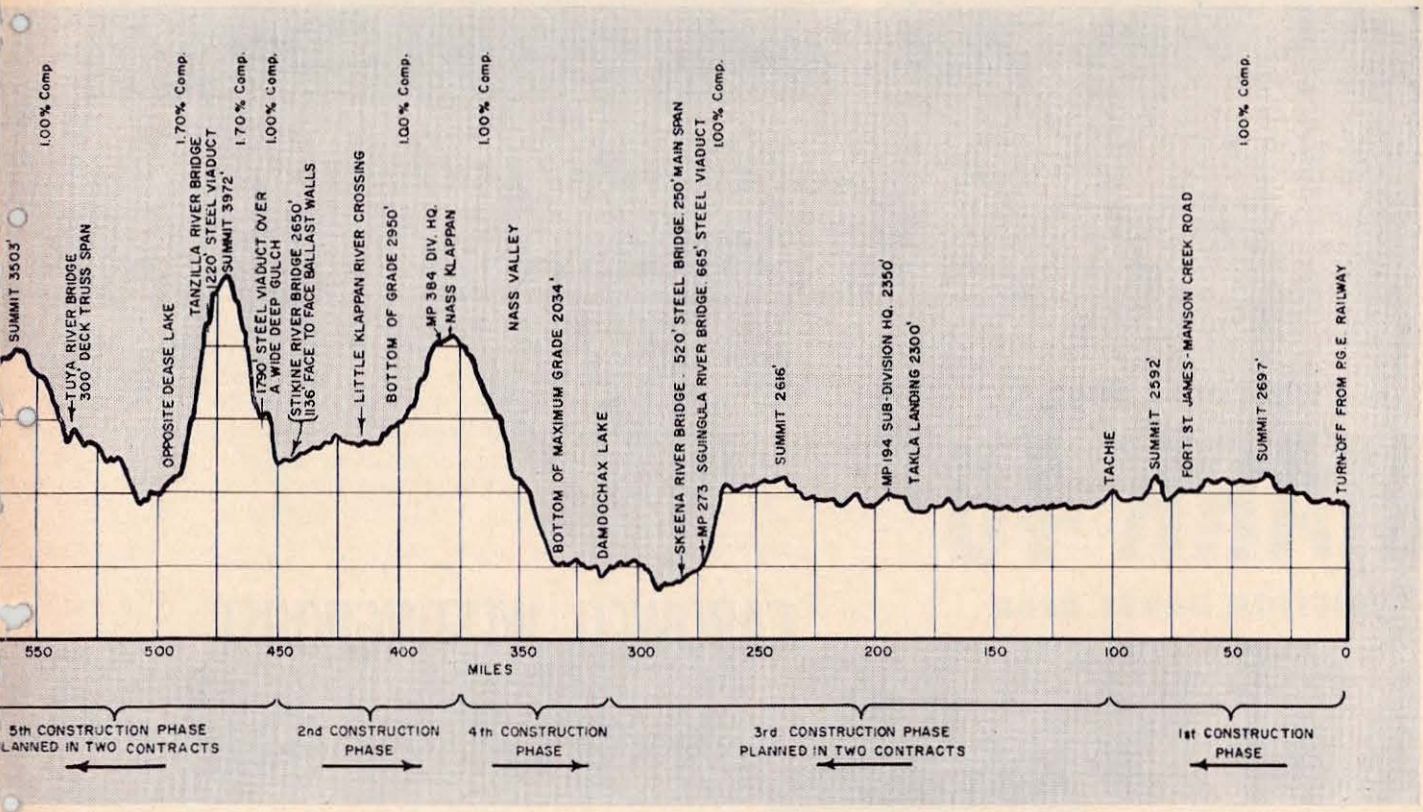
Col. Bingham's preparation of the route and general plan for the proposed railway was carried out in three successive phases: reconnaissance, aerial mapping, and route projection. During the reconnaissance, two possible routes were projected on topographic maps. One started from a point on the Pacific Great Eastern near Summit Lake; the other started some 280 miles farther west, from the Canadian National near Hazleton.

A preliminary stipulation was that ruling grades and curvatures should be no greater than those on recent construction of the nearby Pacific Great Eastern (which does not exceed 1.75% grades or 12-degree curvature).

Reconnaissance indicated that grades and curvature would not be excessive on the route starting from Summit Lake. (The route as finally proposed has a maximum gradient of 1.70% in climbing to the 3,972-ft summit between the Stikine River and Dease Lake. No other location has a compensated gradient of more than 1.00%. There are two 10-degree curves, but maximum curvature for most of the line is 8 degrees, and 87% of the line has curves of 6 degrees or less).

During the reconnaissance phase, maps with a scale of one inch to four miles were used for sketching the general route. Milepost distances were approximated by scaling the maps. Eleva-

(*Continued on page 48*)



▲ **PROFILE** of the PN reflects fact that area in which it would be built lies between the Coast Mountains and the Canadian Rockies. The terrain consists of low mountain ridges and low protected valleys lying some 2,000 to 3,500 feet above sea level. The area is well provided with a network of rivers and lakes, which make it possible to build a railway reasonable both in initial capital cost and annual operating and maintenance requirements.

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MARKET OUTLOOK *at a glance*

Carloadings Rise 10.9% Above Previous Week's

Loadings of revenue freight in the week ended Dec. 3 totaled 522,936 cars, the Association of American Railroads announced on Dec. 8. This was an increase of 51,536 cars, or 10.9%, compared with the previous holiday week; a decrease of 126,646 cars, or 19.5%, compared with the corresponding week last year; and a decrease of 71,948 cars, or 12.1% compared with the equivalent 1958 week.

Loadings of revenue freight for the week ended Nov. 26 totaled 471,400 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Nov. 26

District	1960	1959	1958
Eastern	69,439	80,369	81,593
Allegheny	77,000	110,044	97,269
Pocahontas	36,810	44,148	47,449
Southern	94,716	106,550	103,943
Northwestern	51,362	79,074	56,907
Central Western	101,469	108,477	108,139
Southwestern	40,604	45,567	44,189
Total Western Districts	193,435	233,118	209,235
Total All Roads	471,400	574,229	539,489
Commodities:			
Grain and grain products	52,749	46,984	44,969
Livestock	4,570	5,544	4,963
Coal	82,976	104,964	105,392
Coke	5,232	10,056	8,464
Forest Products	28,340	35,043	33,057
Ore	13,264	47,744	20,094
Merchandise l.c.l.	28,146	33,682	37,650
Miscellaneous	256,123	290,212	284,900
Nov. 26	471,400	574,229	539,489
Nov. 19	567,299	629,895	619,754
Nov. 12	564,590	638,333	644,531
Nov. 5	599,493	561,223	658,442
Oct. 29	620,712	587,776	674,991
Cumulative total, 47 weeks	28,038,637	28,154,023	27,566,394

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the holiday week ended Nov. 26 totaled 9,208 cars, compared with 7,352 for the corresponding 1959 week. Loadings for 1960 up to Nov. 26 totaled 505,068 cars, compared with 377,435 for the corresponding period of 1959.

IN CANADA.—Carloadings for the seven-day period ended Nov. 21 totaled 66,723 cars, compared with 64,515 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Nov. 21, 1960	66,723	26,028
Nov. 21, 1959	76,040	27,448
Cumulative Totals		
Nov. 21, 1960	3,291,073	1,246,316
Nov. 21, 1959	3,485,002	1,257,677

New Equipment

FREIGHT-TRAIN CARS

► *Great Lakes Steel Corp.*—Ordered 30 70-ton gondolas from Thrall for delivery in March, 1961, at an estimated cost of $250,000.

► *Illinois Central.*—Announced a $16-million capital expenditure program for 1961 that includes $11 million for equipment and $5 million for roadway improvements. Company shops at Centralia, Ill., will build 731 70-ton hoppers (231 carried over from the 1960 program) and 750 50-ft double-door box cars. Purchases from private car builders will include 100 70-ton covered hoppers and 25 air-slide cars. Radio telephone equipment will be installed on 85 locomotives and 50 cabooses at a cost of $129,000.

► *Milwaukee.*—Ordered 650 40-ft box cars and 100 50-ft box cars from Pullman-Standard. All cars will be equipped with roller bearings, 9-ft doors and nailable steel flooring. Pullman-Standard will start fabrication of the PS-1 units at its Michigan City, Ind., plant in mid-January (RA, Dec. 5, p. 31).

LOCOMOTIVES

► *Illinois Central.*—As part of its 1961 equipment program, will order a new E-9 passenger locomotive from EMD for $252,000.

► *Mexico.*—Ferrocarril Chihuahua al Pacifico ordered nine 1,600-hp all-purpose diesels and one 1,200-hp switcher from Fairbanks-Morse. Delivery will be completed in March 1961.

New Facilities

► *Missouri Pacific.*—Will build a new electronic classification yard at McGehee, Ark. Yard will have 24 tracks with capacity of 840 cars. Design will permit expansion to a 40-track yard with 1,400-car capacity. Under present normal operation, an average of 1,252 cars and a maximum of 1,683 cars are handled through McGehee daily. New construction will include a receiving yard, departure yard and auxiliary facilities (current plans do not contemplate any change in engine servicing or car repair facilities now in use). The McGehee yard will be the third electronic retarder yard to be built by MP. Neff Yard at Kansas City, Mo., went into service in 1959 and a second yard at North Little Rock, Ark., is under construction (RA, Dec. 21, 1959, p. 46).

Maintenance Expenditures

► *Down 2.1% in September.*—Expenditures by Class I roads for maintenance of equipment, way and structures in September were down about $5 million, compared to the same month in 1959, according to report of AAR Bureau of Railway Economics summarized below:

	Sept. 1960	Sept. 1959	% Change
Maintenance of Way and Structures	$ 97,374,105	$ 99,448,377	—2.1
Maintenance of Equipment	140,652,362	143,613,945	—2.1
Totals	238,026,467	243,062,322	—2.1

EMPLOYEES GO TO BAT FOR READING (Continued from page 24)

offers real economies in transfer cost with increased volume when reasonable cut-off and delivery times are to be maintained. Since no costly ramps, fork lift truck, or cranes are required for Railvan terminal operations, required transfer area investment is extremely low.

Maintenance costs must be allocated to highway and or rail operation. Highway costs are a function primarily of ton-miles and may be considered a stand off for the various systems in use today. Rail maintenance costs for systems utilizing flat cars will be no better than that of conventional rolling stock. Railvan, with its single axle rubber suspension, improved coupling system, and lightweight design, should enjoy at least a 5 to 1 advantage on a container-mile basis.

Crew costs and superintendence may be considered a stand-off on all the systems. However, locomotive expense, fuel, and wear and tear on track and structures are a direct function of train weight and, in this area, Railvan has advantages. Two vans carry the same amount of mail as a 60-ft baggage car and will carry more express because of the loading practices, which results, on average, in 25 gross tons of vans equal to 75 tons of passenger train—a 3 to 1 advantage. Comparison with piggyback and other container systems shows nearly a 2 to 1 advantage at full legal loads and over 2 to 1, on average, in favor of Railvan.

Although, at the outset of service, a number of mechanical short-comings arose, most of these have been corrected. To date, Railvans have run over 500,000 miles with an availability record of over 90 per cent. In general, the mechanical proving phase of Railvans is virtually completed. The equipment has been tested and developed to a point where it is felt it may be safely produced in production quantities. At the present time, the C&O is conducting a market survey to best determine where additional Railvans can be most advantageously used. The Research Department is actively engaged in making feasibility studies for different Railvan body types and a different suspension system using air springs which shows promise not only of improving the riding characteristics, but also of substantially reducing the vehicle cost.

Cushioned Meat Racks

The use of cushioned meat racks in refrigerator cars as vibration absorbers has proved to be an economical and effective solution for elimination of damage to meat, according to W. H. Cyr, chief mechanical engineer of the Canadian National. The arrangement is easily applied and may, therefore, be considered as a satisfactory short-term solution to the problem of the elimination of damage to hung beef during shipment in refrigerator cars. This solution is not generally applicable to all loads requiring protection from vibrations sustained in transit. Originally, it was believed that impacts were the cause of downed beef in refrigerator cars and that an underframe cushioning device was necessary to prevent such damage. This study indicates that the real cause is probably inadequacy in truck design. Therefore, there is an urgent need for improvement in the riding qualities of existing freight-car trucks, particularly in the higher speed ranges, so that all fragile commodities may be protected adequately.

William M. Keller, vice-president-research, AAR, who was a member of an exchange delegation to Russia to study progress on Soviet railroads, noted that USSR progress in the field of mechanical engineering is substantial. Russian rail equipment, while not up to U.S. standards, is improving, notably through the use of four- and six-wheel trucks, automatic couplers, automatic air brakes, and larger capacity cars. Adoption of electrification and dieselization are also progressive steps. Work in the area of education and research is very extensive, but much of the training is in the technical area of improving craftsmanship in the railroad arts. Extensive education of the formal type was also observed, but there was no evidence of superiority over the same kind of education in the U.S.

Mr. Keller's paper was supplemented by comments from other members of the U.S. group that visited Russia last summer: J. F. Nash, vice-president, operations, New York Central; J. W. Horine, Jr., electrical engineer, PRR, and C. D. Buford, vice president, operations and maintenance, AAR.

PNR ROUTE MAPPED BY AIR (Continued from page 45)

tions accurate enough for rough planning were obtained by helicopter altimeter. The rough sketch of the general route, scaled from the maps, indicated a 759-mile railroad. Later aerial surveys and mapping permitted accurate projection of the route, which turned out to be 697.15 miles.

In the aerial mapping and photography phase, the photography contractor was given the line of the proposed route delineated on maps at a scale of 10 miles to the inch. From these, a plan of flight lines to cover the entire mapping area, including several alternative locations, was prepared.

As portions of the work were completed, reference photographs were made available to survey parties on the ground who established the location of reference points for exact location of air-map photographs. From photographic negatives of the area, the mapping contractor produced plates which, when used in Stereo-plotting photogrammetric mapping machines, made it possible to produce elevation, contours and coordinates of all route features.

Topographic and cultural features were indicated by normally accepted symbols. Where names were known for rivers, lakes, communities and other features, they were noted on the map. Relief was shown by contour lines at 10-ft intervals. The maps also related true north and magnetic north to the grid coordinates on each map sheet.

In the third phase of the project, projecting the route, the line was sought that would maintain the best balance between capital construction costs and annual operating and maintenance costs. The route was to be wide enough for easy maintenance and snow removal. Large ditches would carry off the large flows of melted snow to be expected in spring thaws, as well as the heavy rain characteristic of the country. For small watercourses generally, pile trestles were planned, with only six steel bridges (and only two of these of major magnitude) being required.

Excavation and fill quantities that would be required were calculated after the line had been projected on maps, the ground profile plotted and the gradient line placed on the profile. Quantities were determined by scaling for every 100-ft length along the line.

Construction costs were estimated on the basis of construction in nine contract sections, which could be completed in six separate phases. Construction sections were planned to use completed portions of the railway to deliver construction materials, and thus avoid long access roads.

Construction costs, based on Canadian dollars and December 1959 prices, were estimated at $250,000,000 for the entire route. This included $4,905,000 for facilities at the southern terminal, $1,795,000 for facilities at the northern terminal, and $3,480,000 for a division and two subdivision headquarters. Signals and communications, using a microwave system like that of PGE, were estimated at $17,000,000.

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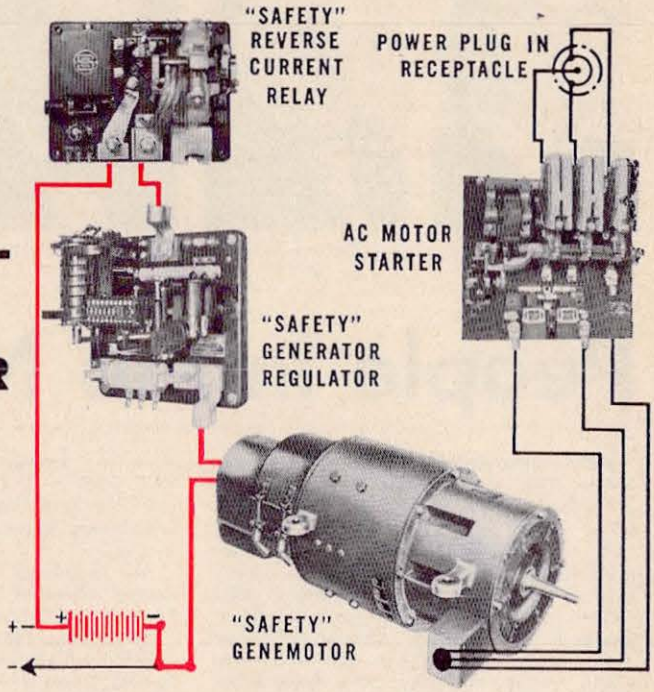

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- liberal use of armature copper and low-loss iron to keep electrical losses (therefore heating) at a minimum,
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- all parts dynamically balanced individually before assembly on the shaft . . . assuring full interchangeability, and
- an automatic polarity reversing switch, eliminating maintenance of an additional generator necessary when an exciter is used.

"SAFETY" Genemotors are available in capacities of 25, 30 and 35 kw and in 40, 80 and 140 volts nominal ratings, with 20 or 32 HP AC, 60 cycle, 220 volt motors . . . 12 to 20 kw output on standby.

"SAFETY" CONTROL EQUIPMENT is completely automatic, compact and simple in design. It needs little maintenance, thus reducing your labor costs. Requires minimum locker space. Provides constant voltage regulation and positive current limit for maximum Genemotor protection. Lengthens battery life, too.

TOGETHER . . . "SAFETY" Genemotors and Control Equipment provide you with:

- constant voltage power for all air-conditioning electrical equipment and lighting,
- full output at very low train speeds . . . assuring quick power availability for re-charging low batteries while cars are en route, and
- standby power in excess of requirements for pre-cooling cars and battery charging.

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CNJ

Edward Keil
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Woodward B. Baugh
RF&P

Hartwell T. Rainey, Jr.
RF&P

People in the News

ERIE-LACKAWANNA.—**George F. Mills** and **Wilbur Cole** appointed assistants to vice president, traffic department, Cleveland, Ohio.

At New York: **A. Blake Connel** and **William F. Ahearn** named foreign freight sales managers; **Harry W. Jones** and **Arthur L. Allen** named export, import sales representatives. **George R. Marr** appointed district sales manager; **Frank K. Noonburg**, general freight agent; **Matthew A. Earley** and **E. Roger Hilpp**, assistant general freight agents; **Frank J. Nelson**, chief of tariff bureau; **Kenneth E. Pritchard**, chief of divisions bureau.

At Chicago, **Charles P. Bell** and **Elliott J. McGarry**, named general freight agents; **Edward R. Burton**, assistant general freight agent; **Arthur E. Hartman**, chief of tariff bureau; **Frederick M. Bell**, chief of divisions bureau.

At Boston, **Henry F. Heck** appointed New England sales manager and **H. C. Buffum**, district sales manager.

The following appointed district sales managers: **James H. Cliff**, Denver, Colo; **Warren R. Jacobs**, Memphis, Tenn.; **A. Dewey Leonard**, Minneapolis, **Lee R. Breckenridge**, Indianapolis, Ind.; **Charles A. Parker**, Columbus, Ohio; **Walter E. Reager**, Portland, Ore.; **George J. Bertrand, Jr.**, Tulsa, Okla.; **John L. Fischer**, Des Moines, Iowa; **James A. Moore**, Dallas, Tex.; **John A. Hosty**, Houston, Tex.; **William L. Thornton**, Birmingham, Ala.; **Edward Havlicek**, Omaha, Neb.; **James P. Drew**, Atlanta, Ga.; **George A. Keil**, Baltimore, Md.; **Frank W. Davison**, Peoria, Ill.; **Edward F. McHugh**, New Orleans, La.; **John Cloud**, St. Louis, Mo.; **Harold W. Gray**, Detroit, Mich.; **Raymond J. Dundon**, Seattle, Wash.; **John C. Bannatyne**, San Francisco; **Charles O. Ewing**, Milwaukee, Wis.; **George T. Dolan**, New Haven, Conn.; **John L. Tjaden**, Cincinnati, Ohio; **Herman A. Bockman**, Kansas City, Mo.; **Harold H. Balk**, Toledo, Ohio; **Kenneth O. Hemming**, Los Angeles, Calif.; **Howard A. Whitney**, Philadelphia, Pa.; **J. Lawrence Chapman**, Pittsburgh, Pa.

Assistant district sales managers are: **William A. Branning**, St. Louis; **Theodore F. Wendt** and **Thomas E. Duddy**, Detroit; **Joseph D. Given**, Seattle; **Alvin B. Collins**, San Francisco; **Grover C. Howe**, Milwaukee; **Owen P. McKeever**, New Haven; **Clinton C. Rau**, Cincinnati; **James H. Williams**, Kansas City; **Ralph D. McMullin**, Toledo; **Walter C. Adams**, Los Angeles; **George Petterson**, Philadelphia; **W. Seal Burwell**, Pittsburgh.

James E. Campbell, district sales manager, and **Edward P. Vandeloo**, sales representative, Albany, N.Y., retired Oct. 31. **Norbert M. Schmitz** named district sales manager, Albany.

At Chicago, **L. E. Newman** appointed district sales manager, piggyback—forwarder—LCL traffic; **C. C. Mitchell** named district sales manager, domestic and foreign traffic; **L. E. Tenney** appointed assistant district sales manager.

At Cleveland, **George W. Moorehouse** named industrial commissioner and **John S. Parsons, Jr.**, industrial agent.

At Toronto, Ont., Can., **Robert Williamson** appointed Canadian sales manager and **J. Samuel Branning** named assistant Canadian sales manager.

Alexander E. Barkalow appointed general coal freight agent, New York. **John E. Hayden** named coal freight agent there. **Joseph A. Mucha** and **Merle S. Sweeney** appointed coal traffic sales agents, Buffalo, N.Y., and Pittsburgh, Pa., respectively.

Leo J. Slack named industrial commissioner; **Joseph A. Corcoran**, industrial agent and **Robert W. Scheuch**, assistant to manager, industrial development, New York. **Daniel F. Mackerly** named industrial agent, Buffalo.

The following appointed division sales managers; **C. William Stroh**, Jamestown, N.Y.; **Leo E. Berry**, Marion, Ohio; **Louis C. Williams**, Rochester, N.Y.; **Harold J. Spindler**, Elmira, N.Y.; **William E. Bennett**, Paterson, N.J.; **Archibald McClay**, Nazareth, Pa.; **Harold L. Johnson**, Huntington, Ind.; **H. Russell O'Hara**, Syracuse, N.Y.; **Edwin H. Huffman**, Akron, Ohio; **Carl P. Underwood**, Dayton, Ohio; **W. P. Camion**, Buffalo; **George J. Eppler**, Scranton; **Harold F. Keelen**, Cleveland; **Claude F. Lauer**, Youngstown, Ohio; **Percy J. Van Ness**, Bloomfield, N.J.

Assistant division sales managers named: **L. L. Harris**, Buffalo; **John A. Sterl**, Scranton; **Leo M. Blum**, Cleveland; **C. Fred Cotton**, Bloomfield.

Paul A. Talkington named division sales representative, Youngstown.

Arthur W. Meinke named manager—mail traffic and **Paul C. Harrington**, manager—express, baggage and milk traffic, Hoboken.

J. A. Craddock appointed superintendent—special duties, labor relations. **H. H. Clark** named superintendent — motor transport service.

At Newark, N.J., **Theodore V. Wall** appointed division passenger sales manager; **Kenneth E. Smith** and **John H. Oatis**, named division passenger sales representatives.

Neil A. Mitts, appointed general passenger agent, Hoboken.

Gerald Saunders and **J. Paul Clark** named division passenger sales managers at Elmira and Akron, respectively. **Charles A. O'Brian** appointed division passenger sales representative, Scranton.

At Cleveland, **F. Joseph Wild** named general passenger agent and **John Vander Velde**, assistant to general passenger traffic manager.

At Youngstown, Ohio, **Vernon F. Green** named Central passenger sales manager and **William L. Schorr**, appointed division passenger sales manager.

At New York, **George W. Krom** appointed Eastern passenger sales manager; **George C. Beesley**, district passenger sales representative.

At Binghamton, N.Y., **William E. Downs** named division passenger sales manager; **John O. Storms**, division passenger sales representative.

Orlo B. Chapman, Donald Campbell and **Frederick W. Scheppman** appointed division passenger sales managers, Jamestown, N.Y., Hoboken, N.J., and Buffalo, respectively.

Ronald E. Towns appointed Western passenger sales manager, Chicago.

JERSEY CENTRAL LINES.—**John F. Hourigan**, freight traffic manager—rates, New York, elected vice president—freight traffic, succeeding **Harry W. Dorigan**, who retired Nov. 30. **Edward Keil**, assistant freight traffic manager, named freight traffic manager—rates and divisions. **John I. Hachtmann**, chief tariff clerk, appointed general freight agent, succeeding **Albert L. Postlethwaite**, who replaces Mr. Keil. Headquarters of all are at New York.

John J. Emerick, research analyst, commercial research department, **Traffic Executive Association—Eastern Railroads**, New York, appointed coal traffic manager for the CNJ, New York.

RICHMOND, FREDERICKSBURG & POTOMAC.—**Woodward B. Baugh**, superintendent transportation, Richmond, Va., appointed general superintendent transportation there. **W. Milton Engard**, assistant superintendent transportation, promoted to assistant to general superintendent transportation. **Thomas DeWitt Styles**, terminal trainmaster, Richmond, appointed superintendent of Potomac Yard, Alexandria, Va.

Hartwell T. Rainey, Jr., superintendent motive power and equipment, named chief mechanical officer.

Supply Trade

E. D. Schlaphoff has been appointed engineer in charge of railroad spray equipment, **Chipman Chemical Co.**, Chicago.

An agreement has been announced by **W. S. Morris**, president of **ALCO Products, Inc.**, New York, and **Geoffrey Bone**, managing director of **Davey, Paxman & Co., Ltd.**, Colchester, England of the Ruston Group, under which the two firms agree to collaborate on diesel engine design and manufacture for world markets.

A. S. Blodget, Jr., has been appointed regional vice president, Midwestern region, **Air Reduction Sales Co.**, Chicago, succeeding **D. D. Spoor**, retired.

OBITUARY

Arthur J. Ryan, 69, who retired in 1955 as fuel purchasing agent, **New York Central**, died Oct. 29 in Lawrence Hospital, Bronxville, N.Y., after a long illness.

J. Taney Willcox, 74, who retired in 1953 as secretary of the **Pennsylvania**, Philadelphia, Pa., died Nov. 16 in Chester County Hospital in that city.

Fred L. Eckert, railroad sales representative, **Schramm, Inc.**, Westchester, Pa., died Dec. 5.

Teamsters Ask TOFC 'Royalty'

► **The Story at a Glance: James R. Hoffa's Teamsters have set out with grim determination to whittle piggyback down to size. The union has:**

- **Demanded that motor carriers using piggyback—or "birdieback" or "fishyback"—pay the Teamsters' welfare fund a "royalty" of one cent a trailer mile, loaded or empty, for every trailer turned over to rail, water or air carriers.**
- **Blamed an "unholy alliance" of the railroads and the ICC for the "fantastic and soaring growth" of piggyback, and called for a Congressional investigation.**

Teamster President James R. Hoffa is proud of the fact that Teamsters, backed by a strong union, earn up to $1,200 a month for piloting highway trailers loaded with new autos. But last week he was warning these drivers that their jobs are jeopardized by an "unholy alliance between the ICC and the railroads" that is putting auto haulage traffic back on the rails.

The picture as painted by Mr. Hoffa's union was this:

"The big three in the automobile manufacturing industry have already contracted the largest part, and the most profitable, of business to the railroads for either piggyback, bi-level or tri-level operation on all of the 1961 models.

"The Ford Motor Company is the biggest offender. Next comes Chrysler, and then General Motors. The small automobile manufacturers, like American Motors, must follow the pattern set by the big three or be destroyed.

"It is estimated by transportation experts that the Ford Company alone will save $40 million by shipping its 1961 models via railroad. The savings by Chrysler and General Motors are estimated to be between $20 million and $30 million."

In the Teamsters' view, this has been made possible by the ICC's willingness to "play Santa" to the railroads.

The Teamsters' position is that railroad auto-piggyback rates do not include "fully-distributed costs such as taxes, depreciation of train equipment, replacement costs, and so forth, that the truckers must include in their rates."

"In effect," says the union, "the other users of the railroads' services must subsidize the shipment of new cars until the railroads are able to put the truckaway companies out of business, and obtain a monopoly in this industry."

("What the Teamsters' statement does not point out," noted one railroad spokesman, "is that all of this movement of new automobiles formerly was on the rails. The truckaway people provided rates and service that diverted most of this traffic from the railroads. Now, Mr. Hoffa is incensed that the ICC is not prohibiting the railroads from winning some of this traffic back by the same method that the truckaway people got it—that is, by superior rates and service. The claim that other shippers 'subsidize the shipment of new cars' is absurd. The margin the railroads earn above direct costs in moving these autos is a contribution toward fixed and 'overhead' costs. If the railroads were forbidden to haul these autos, the railroads would be forced to defray all these costs by higher charges on other traffic. The fact that railroads are hauling these autos reduces the burden on other patrons, rather than increases it.")

The Teamsters have let it be known that their anti-TOFC campaign will not be limited to peaceful appeals to Congress. In the Central States area, the union has demanded that motor carriers using piggyback pay the Teamsters' welfare fund a "royalty" of one cent a trailer mile when their trailers ride the rails, loaded or empty. Under the union demand, there would be a $5 minimum "royalty" per trailer trip. This would apply to "birdieback" and "fishyback" as well as railroad piggyback.

When Mr. Hoffa was asked to comment on the demand, an aide said that he was unavailable. The Teamsters' chief had just learned that he had been indicted, along with two others, on charges of having misused more than $500,000 in union funds in connection with a Florida real estate development.

While their heaviest guns are trained on auto-piggyback, the Teamsters are attacking the whole TOFC trend which, says Mr. Hoffa, "has created severe dangers to the jobs of all Teamster drivers in every part of the country."

He has called for a federal study of piggyback and has asked every Teamster to "make it his duty to contact his Senator, his Congressman, and state or local governmental officials and inform them about the economic dangers of piggyback."

The Teamsters' opening statements in the anti-piggyback campaign came in two volleys: (1) a 28-page brochure issued by the union under the title, "A Dangerous Combination" (i.e., the railroads and the ICC); and (2) an article in the December issue of the magazine International Teamster headed: "How ICC Plays Santa to the Railroads." The magazine also carries a special eight-page section outlining the perils of piggyback. Unionists are advised: "Use This Insert in Fight to Protect Jobs."

Indicating the likelihood that the Teamsters are working up a movement at the grass roots level was a report from Columbus, Ohio. It told of a recent picketing job at the state capital there, staged by 15 Teamsters and their wives—raising a clamor against alleged "rate discrimination by the ICC" in favor of the railroads and against the truckaways. One picket sign said the state was losing gas taxes by reason of the diversion of auto hauling from highway to rail.

Government Investment In Transport: $162 Billion

Government expenditures for highways, waterways, airways, airports and airmail subsidy now total $162 billion, of which more than one-third has been spent since 1955, according to AAR Economist Burton N. Behling.

When tax-built facilities are used by truckers, airlines and barge operators for their own private profit, Mr. Behling told the Inland Empire Waterways Association in Portland, Ore., "there is no sound reason" for taxpayers in general bearing the cost. He suggested that commercial users of such facilities pay compensatory user charges or tolls.

Mr. Behling also called for "greater freedom to establish broader-based transportation companies, utilizing the several transportation modes . . . to greater advantage."

Another speaker at the association's 27th annual convention—Braxton B. Carr, president of the American Waterways Operators—agreed on the need for better transport coordination. But, he said, "we would like to see coordination of service given a fair trial by the various modes under independent operation."

Welby M. Frantz, chairman of the board of the American Trucking Associations, also addressed the convention. He called for an end to what he described as a transportation "cold war."

"The rate structure," he said, "instead of being utilized to provide adequate revenue for service performed, has become a weapon with which to attack the solvency of a competitor. This is particularly vicious and effective where the competitor is a relatively small business operation."

You Ought To Know...

Terminal delay is being fought by Wabash by operating symbol freight trains over-the-road with transfer cabooses already cut in behind cars pre-blocked for delivery to connections. On arrival at terminal, the transfer cut can move out immediately, without time-consuming delays in the yard. Mid-train cabooses are in service on three trains—SK-1, St. Louis to Kansas City; KB-2, Kansas City to Buffalo; and CB-4, Chicago to Buffalo.

PRR has slashed four hours from the schedule of its New York-St. Louis TrucTrain (piggyback) service. TT-3 now makes the run of more than 1,000 miles in 29 hours.

Prizes totaling $1,050 will be awarded in an essay contest sponsored by the Association of Interstate Commerce Commission Practitioners. General subject is "The ICC and Monopoly—a Study of the Commission's Powers and Duties in the Antitrust Field." Details are available from the association's offices, 1112 ICC Building, Washington 25, D. C.

A 5% increase in Missouri Pacific coach fares went into effect Dec. 7. The increase follows similar action by 10 other western lines last October (RA, Oct. 3, p. 7).

The federal government is "driving railroads to the brink of financial disaster while driving all other carriers into a kind of permanent dependence on public handouts," AAR Vice President J. Handly Wright told the Ohio Valley Transportation Advisory Board in Cincinnati last week. He said the answer to the railroad problem isn't nationalization—"just another term for perpetuation of waste"—but elimination of "shocking inequities in taxation, regulation and subsidized competition."

D&H has leased seven acres of land at its Colonie, N. Y., shops to the Kenosha Auto Transport Corp. as a reception and distribution center for Rambler automobiles. The autos will be piggybacked to Colonie from Kenosha, Wis., via C&NW, the Erie-Lackawanna and the D&H. Shipment of 120 autos a day is expected by February.

A grade-crossing collision between a gas-laden truck and a Boston & Maine rail car killed six persons in New Hampshire last week, including a family of four riding in the truck, the B&M conductor and a passenger. The truck exploded. The B&M car, engulfed in flames, reportedly traveled 3,000 yards down the track before stopping.

"Some betterment" in steel consumption in 1961 is predicted by Inland Steel Chairman Joseph L. Block. But he finds "weakness in the outlook for added steel buying from the machinery and railroad equipment industries."

Southern Pacific's overnight "West Coast" (Sacramento-Los Angeles) and "Eldorado" (Sacramento-Oakland) made their last runs on Dec. 7. Reversal of an earlier ICC order has forced continued operation of trains 155 and 156 (San Jose-San Francisco), which SP has also been trying to eliminate.

C&EI's Chicago-Evansville trains 1 and 94 will operate for another four months while waiting for a final ICC decision on the road's application to remove them from its schedule Dec. 14. Annual savings of over $95,000, based on 1959 losses, could be realized by dropping the trains.

ICC requirements for marking hazardous truck cargoes "are grossly inadequate for protection of the public and men of the fire services," C. E. Shaw, deputy state fire marshall of Connecticut, told the National Fire Protection Association at Columbus, Ohio, recently. Major weakness is that "any cargo less than 2,500 lb doesn't have to be marked at all." There is urgent need for "a simple system of readily recognizable and easily understood markings."

Illinois Central President Wayne A. Johnston last week said an expected 1960 net income of $11 million will be realized on operating revenues of $262 million. This compares with 1959 net income of $15 million and operating revenues of $272 million. Mr. Johnston looks for a 6.2% drop in carloadings during 1961 with a corresponding drop in revenues. He also predicted increased operating economies for the coming year.

A new high record in winter travel to Florida is anticipated by the Seaboard. James R. Getty, SAL general passenger traffic manager, says the number of advance reservations on the books indicates that "more vacationers than ever will choose the railroad way south this winter."

Railroads were accused last week of "perfuming a fish" in claiming that rail ownership and "unrestricted operation" of truck lines would permit the shipper to get a variety of transport services with a single telephone call. James J. Fort, counsel for the American Trucking Associations, said in Atlanta that "to obtain the convenience of a single call, the shipper might lose all the proved value of an independent motor carrier industry which more than any other factor has compelled service progress and restrained the rate increases in the rail field."

First Savings Bond campaign to be conducted simultaneously on all Chicago based railroads will begin Feb. 1, 1961. C. M. Roddewig, AWR president, is general chairman of the drive in which rail brotherhoods will actively participate to promote bond purchases through the payroll savings plan.

German Federal Railroad marked the 125th anniversary of German railroad service last week. Some birthday statistics: German Federal today employs 500,000 people, operates 14,000 freight trains and 20,000 passenger trains a day. Its daily passenger load—4,000,000—is three times that of U. S., which has three times as many people as West Germany.

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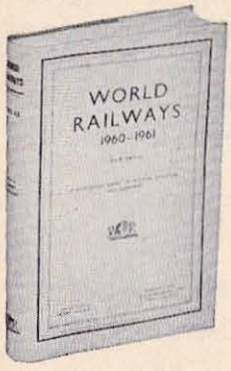

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SECTION

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What Will Mr. Kennedy Do?

Everybody who knows anything about railroads knows that their current performance, and prospects for the future, would change magically for the better if some of their major political handicaps were removed or ameliorated.

There is every reason to assume that President-elect Kennedy and his entourage would favor changes in this desirable direction—provided the significant facts of the current situation are effectively marshalled and presented to him. This conclusion is justified, we believe, by such facts as the following:

Comparative earnings as a percentage of net assets of a wide range of industries are available over a long term of years in annual compilations by the First National City Bank of New York. These show the railroads earning a little over 3%, on the average—compared to almost three times that much by the utilities and four times as much by the manufacturing industry.

Simple logic leads inevitably to the conclusion that an industry in this relatively unfavorable situation for raising new capital would be headed for trouble—and, in the New Haven, Mr. Kennedy has a concrete example, right in his own backyard, of just what to expect. A little supplementary arithmetic should suffice to show him that what has happened in the case of the New Haven will spread to other railroads, if current conditions remain uncorrected.

Mr. Kennedy is certainly enough of a practical politician to know that a half-dozen or a dozen New Haven situations in various parts of the country would not be good for the Administration then in office—especially since, after January 20, the President will have his own party in power in both branches of Congress.

If railroads are not in a substantially much stronger position physically and financially in 1962 and 1964 than they are today, it will be impossible for the party in power to escape primary responsibility. President Eisenhower was confronted by a parallel situation when he took office in 1953. He did nothing about it—but the condition of the railroads is relatively much more critical now than it was then. Another 8 years—or even 4 years—of the rate of decline in participation in available traffic that railroads have suffered since 1952 would mean disaster.

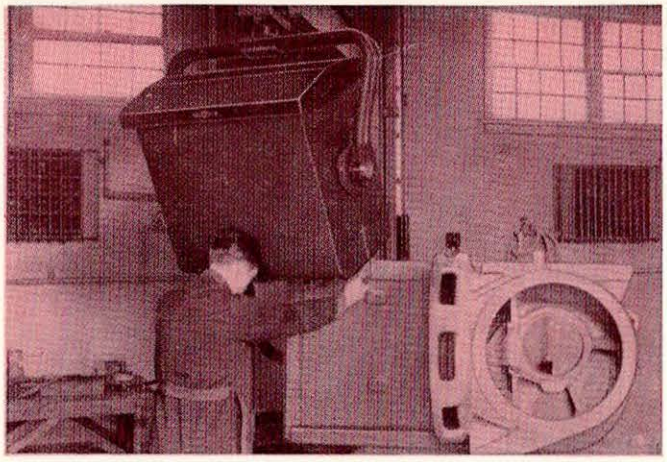
Such is the practical political aspect of the railroad situation. There is, also, the defense aspect—the primary dependence of the nation on fuel-saving and labor-saving railroad transportation, in a time of national emergency, when food and manpower are inevitably in short supply. In the face of the nation's need for them, railroads are manifestly suffering from physical shrinkage, observable to even the most casual onlooker.

This condition would change dramatically if several such steps as the following were taken:

- Put competing transportation on the same financial footing as the railroads (through compensatory user charges on government-owned transport plant).
- Authorize railroads to set up a "construction reserve," not subject to income taxes, so they could use their slender earnings to keep their plant intact.
- Equal taxation of railroads with that of other forms of transportation (perhaps by reducing property taxes, especially on passenger facilities, to only a token amount).
- Equal railroad regulation, item by item, with the regulatory rules of other forms of transportation—including exemption from railroad regulation of commodities exempt when moving by other means.
- Allow railroads to engage in other forms of transportation, on the same basis as other Americans.
- Equalize working conditions (including "social security") between railroads and competing transportation.

There is plenty wrong with railroads now—from the standpoints alike of railroad owners, shippers, employees, and national defense and welfare. But there is nothing wrong with them that courageous political action by Mr. Kennedy and his entourage could not quickly correct. The duty of the railroads is to marshal the pertinent facts and present them vigorously in the proper quarters.

We are optimists enough to believe that, if railroads follow this course, Mr. Kennedy will act affirmatively. He could scarcely do otherwise, as an intelligent political realist and a patriotic American. There is as yet no evidence to warrant adjudging him negatively on either count.



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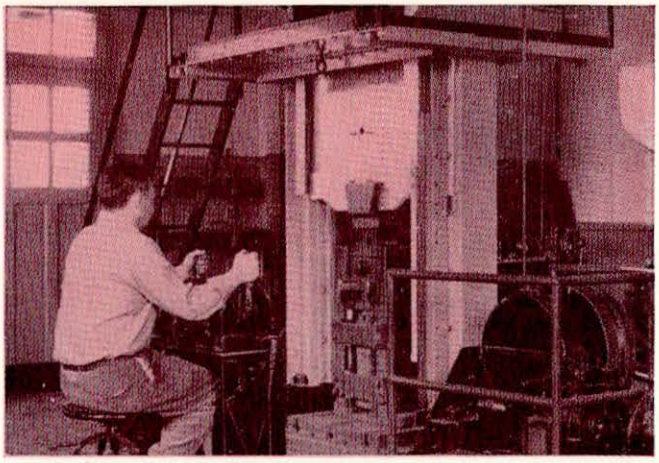
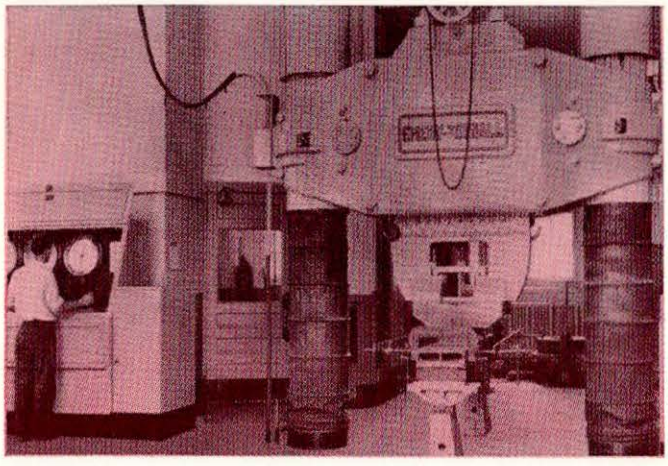
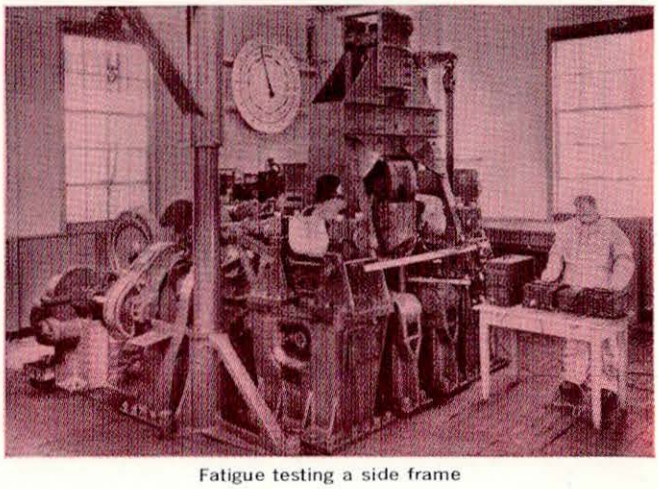


Drop hammer dynamic test



One million pound hydraulic tension and compression testing machine



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